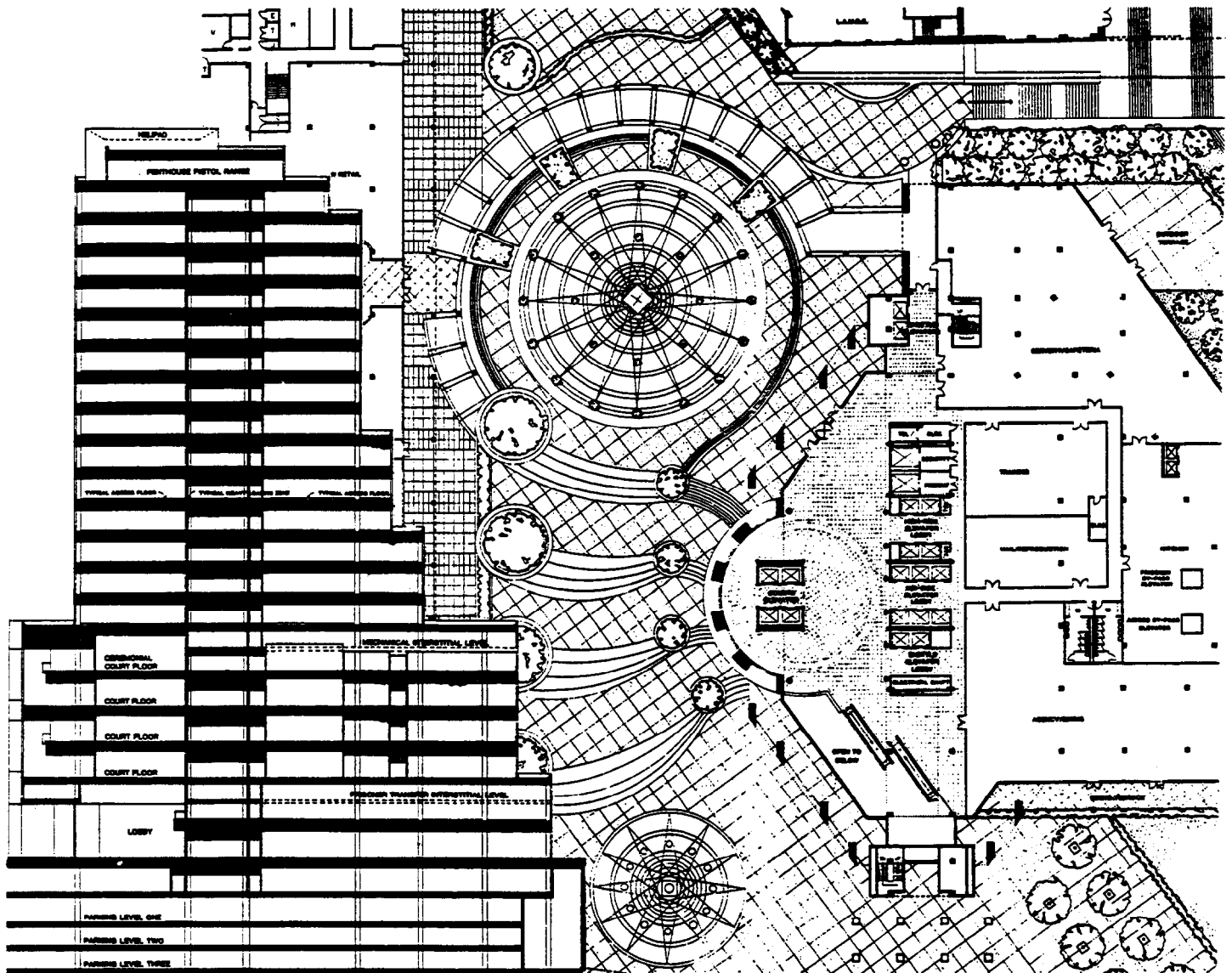


Prospectus Development Study Guide

December 1991



U.S. General Services Administration
Public Buildings Service

INTRODUCTION

A Prospectus Development Study (PDS) is the primary means for the General Services Administration (GSA) to establish the scope and budget for major new construction and alteration projects. A PDS is first used as a planning document to clearly define project requirements and as an information source to prepare a project's prospectus for Congressional authorization. Subsequently, the PDS provides the basis of the design Architect/Engineer's (A/E's) scope of work. With the PDS' implementation strategy, it also offers initial management direction for the project's execution phase. A PDS is required for all GSA capital construction whether initiated by GSA or Congressional n(b) planning procedures. The PDS may also be used to establish a construction alternative for selected capital lease applications.

This Prospectus Development Study Guide is intended for use by GSA in defining PDS content and delivery services. The guide is organized into five chapters addressing PDS requirements. It also provides appendices of sample work activities to establish a project's program requirements, implementation strategy, and budget. Major changes from the original September 1989 version of the guide include: an expansion of the procurement strategy to help evaluate design-build delivery options; the addition of Chapter 5 on contract services, including a sample PDS scope; the separation of appendix delivery instructions to individually treat new construction and alteration projects; and the expansion of these appendices to address implementation strategy and budget assessments. This guideline is intended to support GSA in contracting for a PDS and should be helpful to the PDS contractor in understanding the level of services required.

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CHAPTER 1.

GENERAL

PROSPECTUS DEVELOPMENT STUDY (PDS)

The PDS is a capital project scope and planning document which provides a design program, an implementation strategy, and a budget assessment. Early identification of these PDS elements is essential to establish project feasibility, to support project selection, and to coordinate project execution. PDS content and contracting recommendations are outlined below and are detailed in successive chapters.

Design Program. programming addresses functional objectives, involved building system requirements, tenant agency needs, opportunities/constraints, and design criteria/approach. These are discussed in detail within Chapter 2.

Implementation Strategy. A PDS must identify a course of implementation actions starting with Prospectus development, through design and construction, and concluding with occupancy. This is done by analyzing available courses of action in terms of their impact on project completion time, cost, and continuity of tenant/GSA operations. Project delivery decisions must address scheduling, funding sources, procurement approach, design and construction phasing, tenant relocations, telecommunications services, and roles of participating organizations. The process of developing an implementation strategy often uncovers problem

areas which can influence final project scope and budget. Implementation strategy is discussed in detail within Chapter 3.

Project Budget. A budget assessment and analysis reflects both design programming and implementation strategies. Project budgets are discussed in detail within Chapter 4.

Contracting for a PDS. A scope of work to produce a PDS must define the level of programming required, emphasizing areas of specialized investigation. These items, along with estimating the cost for PDS services, are discussed in Chapter 5.

RELATION TO OTHER DOCUMENTS

Typically there are existing planning/criteria documents which are relevant when preparing a PDS. Prior to PDS scope preparation, GSA should identify and review all project related documents, which can include the following:

GSA Handbooks and Guidelines. The “Facilities Standards for the Public Buildings Service” is the primary GSA design criteria/standards document and is typically referenced for compliance in design A/E contracts. The programmer shall review this document for adherence/exceptions specific to each building system involved in the project. GSA guidelines such as the “U.S. Courts Design Guide” and the “Border Station Design Guide” shall also be reviewed if these space types are involved in the project.

Community Plan. Community plans for major cities/locations identify long term space needs for Federal agencies and propose appropriate actions to address those needs. Major projects involving renovation of existing Federal buildings or construction of new Federal buildings must

be developed in accordance with the appropriate community plan. Where space reassignment is involved, a current Housing Plan must be addressed to identify space needs. Refer to the Project Planning and Development Handbook PBS P 7000.12 for further description of these documents.

Building Engineering Report (BER). A BER is a primary source document used in preparing a PDS for alteration projects. It defines existing building conditions and establishes work items to correct deficiencies. GSA will identify BER work items which are to be addressed by the PDS. BERs are discussed in the GSA handbook “Repair and Alteration Program Management,” PBS P 6800.1C.

Historic Building Preservation Plan. Designated historic properties and those that are eligible for inclusion in the National Register of Historic Places must be treated in accordance with GSA Order ADM 1020.1 “Procedures for Historic Properties,” and Sections 106 and 110 of the National Historic Preservation Act of 1966 as amended. For these projects, a Historic Building Preservation Plan (HBPP) must be completed before and used during the preparation of the PDS. A GSA Regional Historic Preservation Officer will provide the HBPP and must be consulted in the preparation of a PDS having historic preservation considerations.

General Feasibility/Information Studies. GSA may have conducted other technical studies of various types to support project planning and/or to assess building conditions. If available, such studies may require evaluation to ensure that the conditions identified remain and that the conclusions and recommendations are appropriate.

State and Local Planning Documents. Since Federal policy calls for cooperation with state and local authorities when planning Federal facilities, local government officials must be contacted to ensure that all documents impacting the project are discussed in the PDS. These

documents may include master plans, current and future land use plans, zoning maps, traffic studies, etc. Additional contacts may be required to ascertain the availability of essential support services (fire, police, utilities, etc.).

Environmental Studies. National Environmental Policy Act (NEPA), “compliance documents” may be available in the form of either an Environmental Assessment or an Environmental Impact Statement. Environmental evaluation procedures should be initiated in time to insure that potential impacts are reflected in PDS design programming directives.

ROLES AND RESPONSIBILITIES

The following addresses roles and responsibilities of organizations specific to PDS development.

Design and Construction (D&C). D&C has responsibility for funding and preparing and/or overseeing the development of Prospectus Development Studies. This typically includes preparing the PDS scope of work and managing the PDS technical delivery.

Real Estate. Regional Real Estate divisions provide detailed housing plans and prepare a summary of tenant agency space requirements. Real Estate works with D&C, impacted tenants, and the involved GSA Field Office to establish a phasing plan which minimizes disruption of tenant/building operations. Real Estate identifies all required lease actions and indicates critical delivery dates. Real Estate also works with tenant agencies to identify above standard (reimbursable) services/features.

Planning. The Regional Planning Staff in consultation with the Regional Real Estate Division assesses long term requirements of client agencies and develops housing strategies to meet space needs. The Planning Staff establishes overall project direction through Community Plans, Regional Planning Memorandums, Retention/Disposal Studies, and NEPA compliance documents. The Planning Staff is also responsible for coordinating their region's prospectus program, including the development of prospectuses, housing plans, and related documents. Planning Staffs identify and authorize the preparation of PDS' for new construction and lease projects.

Real Property Management and Safety (RPMS). RPMS is responsible for the cyclic inspection of PBS buildings to establish repair and alteration needs. This is typically done through BERs and facility assessment reports. Based upon overall direction established by the Community Planning process, Repair and Alteration (R&A) organizations within RPMS (separate for the National Capital Region) reviews alteration PDS' to assure problem resolution. With a completed PDS for alteration work, R&A supports prospectus development by the regional Planning Staff.

Field Offices. The responsible Field Office Manager is a source of local information and assistance. Field Office Managers should be consulted prior to and during PDS preparation for information on current building conditions, maintenance constraints, site access, communication with tenant agencies, and other courses of action impacting project scope and implementation strategy.

Contracts Division. The Contracting Officer for both the PDS and eventual project will typically be provided by the regional Contract's Division. The CO will have interest in assuring compliance with all legislated/regulated procurement practices and should be consulted as to project delivery methods as represented within the PDS implementation strategy.

Information Resources Management Service (IRMS). IRMS is responsible for establishing government-wide policy and regulations for telecommunications services; providing consolidated telecommunications services when it is cost effective and making reimbursable technical support available to PBS and/or PBS's client agencies. Reimbursable services may be made through the Telecommunications Technical Services Contract or other means. All telecommunications related issues should first be coordinated with the appropriate IRMS Zonal Telecommunications Division Offices for proper guidance and direction.

Federal Protective Service (FPS). FPS is responsible for identifying potential building security problems which may result in facilities containing court related functions, law enforcement operations, Congressional offices, or other security oriented tenant. FPS should be consulted if after-hours protection may be required to maintain building security, and should establish costs for this added protection.

Tenant Agencies. Federal agencies occupying or requiring GSA controlled space must provide detailed space requirements and operational characteristics to support project space directives. Tenant agencies are also responsible for planning and developing needs that are outside project scope such as furniture replacement and telecommunication services.

CHAPTER 2.

DESIGN PROGRAMMING

SCOPE

This chapter discusses the program portion of the PDS, upon which most design direction and project costs are based.

DEFINITION

Design programming is the process of identifying project objectives, and addressing those objectives through specific design direction. For the PDS, this direction is provided in the form of design programming directives.

DATA GATHERING

Data collection must be structured to provide the project information required to develop design programming directives. Specific project data comes from the following sources.

GSA Studies. Existing project studies and reports must be reviewed by the PDS programmer. Such references may include: Building Engineering Reports (BER), facility assessment reports (e.g. energy audits, fire protection, facility safety, accessibility, seismic safety, and environmental management surveys), Community Plans or Regional

Planning Memoranda, Retention/Disposal studies, Master Plans, Historic Building preservation Plans, space planning studies and organization functional need assessments. If such documents do not exist, GSA may add them to the PDS scope of services if considered essential to address project needs.

GSA National Program Direction. GSA standards, in the form of handbooks and guidelines, will be made available to the programmer. Program issues relate to energy conservation, environmental safety, handicapped accessibility, historic preservation, seismic safety, and many other issues.

GSA Space Directives. The Regional Real Estate Division will develop space requirements based on interviews with tenant agencies. These interviews are to be conducted by the Real Estate Division and/or space planning contractor to determine space and functional requirements applicable to the project. Data collected shall include the use(s) of the proposed facility, expected occupancy, special equipment and/or service needs. The data collected shall be reviewed with the Design and Construction Division, Real Property Management and Safety Division and Planning Staff to validate and ensure coordination of all space-related issues. During the PDS, the PDS contractor may be required to conduct additional tenant interviews to further clarify data furnished by the Real Estate Division.

Building Operation and Management. Regional Real Property Management and Safety and the Field Office Manager/Operator will provide requirements of building operation, maintenance, cleaning, repairs, and equipment replacement.

Site Inspection. The programmer must investigate impacted site conditions to support/define requirements for tenant space and building operating systems. For projects where expansion of existing facilities or

new construction is proposed, measurements/tests may be required to establish soil characteristics, soils contamination, proximity to other improvements, encroachments, easements, boundary limits, topography, traffic patterns, and location/capacity of underground utilities.

Tenant Interviews. It is essential to contact impacted tenant agencies to understand/confirm space requirements and to establish critical features and functional issues. Direct interviews with key agency personnel and/or use of questionnaires must be coordinated through identified GSA contacts.

NEPA Compliance Documents. If available, Environmental Assessments or Environmental Impact Statements must be reviewed to identify problems and mitigating actions that impact project design. If an environmental study is being conducted during PDS preparation, the PDS programmer and environmental study agent must exchange preliminary information concerning project requirements, problems and solution opportunities.

National Codes. The programmer must identify and review appropriate national code requirements. See references within the Facilities Standards for the Public Buildings Service.

State/Local Planning and Regulation. All pertinent state and local government regulations and planning requirements must be reviewed, including codes and ordinances. Where appropriate, contact shall be made with the State Environmental Agency, State Historic Preservation Office, National Advisory Council on Historic Preservation, zoning board, health departments, Fine Arts Commissions, local Fire Marshall, Regional Planning Commission, etc. All contacts with local authorities must be coordinated with the GSA Regional Planning Staff.

Information Resources Management Service. Data for telecommunications shall be gathered through interviews with tenant agency representatives and IRMS (refer to the GSA Telecommunications Policy contained in FPMR Chapter 101.17 and IRMS Needs Determination Services). Major issues include impacts on project schedule, construction coordination, and facility support needs.

IDENTIFYING FUNCTIONAL OBJECTIVES

Functional objectives relate to overall project goals. Functional objectives may include concerns such as seismic safety, fire safety, innovation, energy efficiency, accessibility, space flexibility, security, durability, historic preservation and/or others. They may vary for different projects. For example, objectives of security and image are critical to the safe operation and prominence of a Federal courthouse. As such, these objectives should be evaluated (along with other applicable objectives) for each building feature and system involved in a courthouse project. In a renovation project, objectives of energy efficiency and historic preservation may be among those considered important. Where a functional objective has a significant impact on a building system, design direction must be established by the PDS programmer.

Functional Objectives/Building Systems Matrix. A matrix relating important functional objectives and involved building systems offers a visual representation of major design programming issues. By assigning a weight factor to each intercept, it identifies the relative importance of functional issues to the involved building system. It also provides an indication to the level of effort warranted in defining programming direction. With a weight factor range of 1-5 (1 = low affect, 5 = high affect, 0 = no affect) ratings of 3-5 would require that the functional objectives should be carefully addressed in the building system's design directive. Ratings of 4 or 5 would further indicate that detailed design

direction is expected, addressing important requirements, and special design criteria/practices. A rating of 3 would suggest that programming direction need only address basic requirements and typical design criteria/practices. Ratings of 2 or 1 would suggest that performance requirements and/or standard criteria references would be adequate programming direction. See Exhibit 2-1 for a matrix example.

Matrix Use in Programming. As the number of functional issues and degree of development affects the programming effort, the matrix should be prepared by GSA and the PDS programmer as part of the fee negotiation process. During the design program's development, the matrix may also serve as a submission review "checklist" to judge the adequacy of program direction.

Matrix Use in Design. In presenting this Functional Objectives/Building Systems Matrix, the PDS should also provide instructions to the design A/E that any functional objective given a 4 or 5 priority must be thoroughly addressed in the project's concept and tentative design submissions.

EXHIBIT 2-1

FUNCTIONAL OBJECTIVES/BUILDING SYSTEMS MATRIX

SAMPLE

		FUNCTIONAL OBJECTIVES (modify as appropriate)																	
		Tenant Productivity	Space Flexibility	Seismic	Thermal Integrity/Moisture Protection	Energy Efficiency	Water Conservation	Durability/Maintainability	Expandability	Emergency Systems/Reliability	Materials Handling	Accessibility	Acoustic Quality	Security	Fire/Life Safety	Health/Environmental Conditions	Building Automation	Historic Preservation	Innovative Technologies
BUILDING SYSTEMS	1.0 Foundations	0	0	5	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
	2.0 Substructure	0	3	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
	3.0 Superstructure	3	3	5	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
	4.0 Exterior Closure	3	0	3	3	5	0	4	0	0	5	4	3	3	3	2	0	0	4
	5.0 Roofing	0	0	2	4	5	0	5	0	0	3	0	0	2	5	2	0	0	5
	6.0 Interior Construction																		
	Partitions	3	4	3	0	0	0	4	3	0	5	0	4	4	5	4	0	0	4
	Interior Finishes	3	0	0	0	4	0	4	3	0	5	0	4	0	5	4	0	0	5
	Specialties	4	0	0	0	0	0	3	3	0	3	0	2	2	3	4	0	0	4
	7.0 Conveyance System	3	1	3	0	2	0	4	4	5	2	5	3	3	5	4	4	5	5
	8.0 Mechanical																		
	Plumbing	2	0	3	0	5	4	5	3	3	0	4	0	0	0	3	0	3	5
	HVAC	4	4	3	0	5	3	5	2	5	0	0	4	3	4	4	5	5	5
	Fire Protection	0	0	3	0	0	0	5	3	5	0	0	0	4	5	2	5	5	5
	Special Systems	3	0	1	0	3	0	5	2	5	0	0	0	4	3	2	5	5	5
	9.0 Electrical																		
	Service & Distribution	2	4	0	4	0	0	4	3	5	0	0	0	4	3	2	2	5	3
	Lighting & Power	4	4	3	3	5	0	5	3	5	3	3	0	4	4	3	5	5	5
	Telecommunications	5	5	2	0	0	0	3	3	5	0	0	2	3	3	0	4	5	5
	Fire Detection/Alarm	0	1	0	0	0	0	2	3	5	0	0	0	5	5	4	5	5	4
	Other Special Systems	3	0	3	3	4	0	3	0	5	0	0	0	3	5	0	3	5	4
	11.0 Equipment	3	0	0	0	3	0	5	0	3	0	0	3	2	2	0	3	3	4
	12.0 Site Work	0	0	0	0	0	4	0	0	0	4	4	2	5	0	4	3	0	3

DESIGN PROGRAMMING DIRECTIVES

Information collected during data gathering must be translated into design programming directives. These directives provide the means to focus the design to the project functional objectives.

Types of Directives. Design programming directives provide clear guidance for the A/E regarding preferred design solutions, acceptable alternatives, desired functional requirements, or requirements for further study. GSA will specify which types of directives are acceptable for evaluation within a PDS. Types of design programming directives include:

Prescriptive. If there is only one acceptable solution, state it.

Specified Alternatives. If there are a limited number of acceptable solutions, state them and specify an evaluation process for the design A/E.

Undefined Alternatives. If there is limited information on which to make judgments as to design direction, defer evaluation pending a review of options by the design A/E. In such cases, the design programming directive should instruct the design A/E as to the number of alternatives to evaluate, and the evaluation procedure to follow.

Performance. If goal oriented direction can effectively control design development, performance directives may be used, provided there is a means of identifying compliance. Performance directives may be appropriate where design is significantly influenced by codes, standards, and/or criteria references.

Design Directive Development. Design programming directives are to be organized and presented in the PDS in the format described below:

Title. The design decision area for which the directive is written.

Functional Objective. Provide statements which define the fictional objective the A/E must meet.

Design Direction. This section identifies what must be designed and how the design should be developed. Design directives within this section must conform to one of the four types of directives described above, as instructed by GSA.

Trade-off Discussions. This presentation examines ways of dealing with conflicting requirements/criteria, if any. It may also explain the relative priority of one design direction versus another. When the programmer discovers conflicting criteria and/or requirements, the programmer must contact GSA for final resolution. GSA determinations of these conflicts are to be reflected within the PDS.

Data References. PDS data references identify design criteria sources and/or may indicate the basis for the design programming directive. Referenced documents may consist of codes, standards, regulations, handbooks, guidelines, textbooks, studies, planning documents, etc. The programmer must address any criteria exceptions to direction contained within PDS scope material, especially the GSA issuance “Facilities Standards for the Public Buildings Service.” PDS data reference designations must direct attention to relevant text, noting specific chapter(s), section(s), part(s), clause(s), etc.

DESIGN PROGRAMMING CATEGORIES

Design directives should be structured into major subject categories that are aligned with cost estimate formats as this improves correlation between project requirements and cost impacts. PDS submission reviews are also facilitated if PDS scope statements are organized into the same categories.

New Construction. For new construction, UNIFORMAT subject categories are appropriate, matching building system cost elements on GSA Form 3596. UNIFORMAT categories enable a direct correlation to building system concepts and design discipline assignments.

Alterations. Project recognition, whether established by a BER or other study, will typically address problems/needs as Work Items. To offer alignment with these studies and to emphasize problem resolution, design programming should be organized by Work Items. Each Work Item may then be developed using UNIFORMAT. This approach is supported by cost estimating requirements within GSA Form 3597.

UNIFORMAT Building Systems. Whether applied to new construction or alteration projects, UNIFORMAT system categories may require additional subject categories to address general building requirements and overall functional objectives. A summary of programming category descriptions follows. Note that sample PDS scope statements are presented in the same organization within both the New Construction and Alterations Appendices.

General Building Requirements. Contains overall project requirements relating to space, building form, and operations. Space directives include current occupiable space needs, growth projections, circulation, and gross building area requirements. For new construction, building form directives address shape and image, and relate to height,

floor configuration, core location(s), etc. General project requirements for building operations and services may also be included to establish a basis for building system requirements.

Functional Objectives. Identify those important building functions and/or objectives which will be used to judge the project success. Directives within this category should closely align with functional objectives having ratings of 4 or 5 in the Functional Objectives/Building Systems Matrix). The following are examples only.

- o Tenant Productivity
- o Space Flexibility
- o Seismic
- o Thermal Integrity/Moisture Protection
- o Energy Efficiency
- o Water Conservation
- o Durability/Maintainability
- o Expandability
- o Accessibility
- o Acoustic Quality
- o Security
- o Fire/Life Safety
- o Health/Environmental Quality
- o Building Automation
- o Emergency Systems/Reliability
- o Historic Preservation
- o Innovative Technologies

UNIFORMAT Categories. Contains design directives that establish building system performance and criteria requirements. Directives are to address cost impacting system requirements and/or to identify criteria exceptions within GSA and industry standard design references. UNIFORMAT building systems address the following headings.

Foundations. Contains design directives for wall and column foundations, and associated excavation.

Substructure. Contains design directives for basement walls, basement excavation, and slab on grade construction.

Superstructure. Contains design directives that address general floor and roof construction, including floor-to-floor heights, live and dead loads, seismic requirements, etc.

Exterior Closure. Contains design directives for general envelope construction including walls, windows/doors, insulation, vapor retarder and air barrier systems, and facade treatment.

Roofing. Contains design directives for roof coverings, insulation requirements, atria, skylights, etc.

Interior Construction. Contains design directives for floor, partition, and ceiling finishes/treatments. It also addresses egress systems, built-in furniture, graphics/signage, hardware, acoustics, and possible need for prototype spaces.

Conveyance Systems. Contains design directives for elevators, escalators, moving sidewalks, cranes, etc.

Mechanical. Contains design directives for HVAC, fire protection, building automation, and plumbing systems.

Electrical. Contains design directives for electric service, lighting and power distribution, fire detection/alarm systems, telecommunications, and security.

Equipment. Contains design directives for building equipment, including furniture, robotics, laboratory/cafeteria equipment, vaults, etc.

Site Work. Contains design directives concerning site demolition, building placement, access to and from building(s), site locations of parking areas and planned outdoor space, landscape planning, environmental hazards, and utilities.

CHAPTER 3. IMPLEMENTATION STRATEGY

SCOPE

This part further defines a project by addressing critical issues, procurement actions, and procedures necessary to effect the project.

BACKGROUND

Prospectus level projects require extensive coordination within GSA, and between GSA, tenant agencies, and outside organizations. To develop an implementation strategy, the PDS must provide a clear understanding of who does what, when and why. Once this is accomplished, major concerns can be planned involving temporary housing, scheduling, funding, procurement, etc.

CRITICAL ISSUES

The implementation plan must individually address critical coordination issues/scheduling concerns within the project. This discussion serves to focus attention on possible sources of project failure. Issues are considered critical if they could prevent or delay project completion, significantly increase government costs, disrupt tenant operations, or adversely impact other space assignment/procurement actions.

The following represents typical implementation issues which require an assessment to establish project impacts. Once critical issues are identified, an implementation strategy/plan must be developed to address them. The implementation plan must also present the consequences should related actions be delayed or not happen. GSA should be actively involved in directing the development of this plan.

Space Management. It is important to address all space assignment actions associated with the project, especially those involving a sequence of actions (the domino effect) required to achieve tenant relocation. It is often necessary to relocate tenants for the programmed construction. If swing space is required, a determination must be made as to whether it will be available within the building, at another GSA building, or in leased space. All temporary services required for swing space should be recognized in the implementation plan, including all telecommunications and special equipment/systems required by the tenant. All costs for swing space, including the lease (if applicable), tenant build-out, temporary telecommunications, special equipment, utilities, and maintenance, must be accounted as part of the tenant relocation costs. All tenant space needs should be coordinated through Real Estate.

Off-Hour Services. Sometimes it is possible to accomplish the programmed construction through off-hour labor, thus allowing the tenant to remain in place. GSA and the programmer must weigh the high labor costs and “construction zone” effects on the working environment against the costs of tenant relocation.

Availability of Site. Site access is critical in order to accomplish projects in a timely manner. Events such as title transfer, tenant relocation, utility company interface, etc., need to be programmed and completed on schedule in order to ensure the availability of the site for construction. Once the project is under construction, access for equipment/material handling can be a major concern. Most cost estimating data assume

unrestricted site access. However, in alteration type projects, there can be frequent restrictions in movement because of security, sharing elevators with tenants, lack of storage/staging areas, etc. Even when swing space is employed, the work usually has to be phased, requiring start to finish construction in each area before moving on to the next: This can result in scheduling inefficiency and increased project costs.

Government Approval(s). As coordinated through the Regional Planning Staff, the implementation plan should identify required or desired interaction with the appropriate local, state and Federal authorities, allowing for their timely review and approval of design and construction. The plan should be clear as to which agencies, etc. have review/approval responsibility.

Agency Mission Interruption. The implementation plan should address any interruptions that may occur to tenant agency internal operations and in their availability to the public during tenant relocations. The plan should discuss required redundant equipment for instantaneous changeover: This may be required where agency mission requirements mandate continuity of service, such as for mainframe computers and telecommunication systems. Agency program needs must be jointly reviewed by the programmer and GSA.

Utilities and Special Systems/Coordination. Any utility restrictions in size, reliability, or availability should be resolved as a part of the implementation plan. The plan should include telecommunications, water and sewer, electrical power, and use of fossil fuels, etc. For telecommunications, the plan should address any advisory services required, relocation (or excessing) of existing equipment, new system instruments, new wiring/cabling, switch and network installation, etc. Telecommunications should also be reviewed with the Information Resources Management Services (IRMS) regarding network (dial-tone) services. For special systems/equipment such as computers, the plan

should address the actual moving (or excessing) of the systems/equipment, their installation or replacement, and any testing/certification requirements.

Building Operation. As facility operations can influence building features and system selections, the implementation plan must identify who will operate the facility. There is also a need to determine what impact the project may have on existing operation and maintenance agreements. If the facility is being renovated while occupied, special considerations such as dust partitions, safety fences, and increased cleaning by custodial staff may be necessary. For scheduling assessments, construction should be substantially complete, with all systems in operation, before the tenant occupies the space. Scheduling of environmental inspections/monitoring of asbestos, radon, and other health safety concerns should be coordinated with regional Real Property Management and Safety.

Environmental Impact. An environmental assessment or impact statement may exist or be under development. Procedures and actions established to mitigate the project's environmental impact, should be reflected within the implementation plan. These conditions may include special containment actions, access restrictions, time of day limits, relocations, testing, etc. Environmental concerns must be coordinated with both the regional Planning Staff and the regional Real Property Management and Safety Division.

DESIGN AND CONSTRUCTION PROCUREMENT STRATEGY

A separate section within the implementation plan must compare project specific advantages/disadvantages of Traditional and Design-Build delivery methods. Implementation strategies for each evaluated delivery method must be established. When defining the Design-Build alternate, the strategy must be clear as to what work the Design-build method

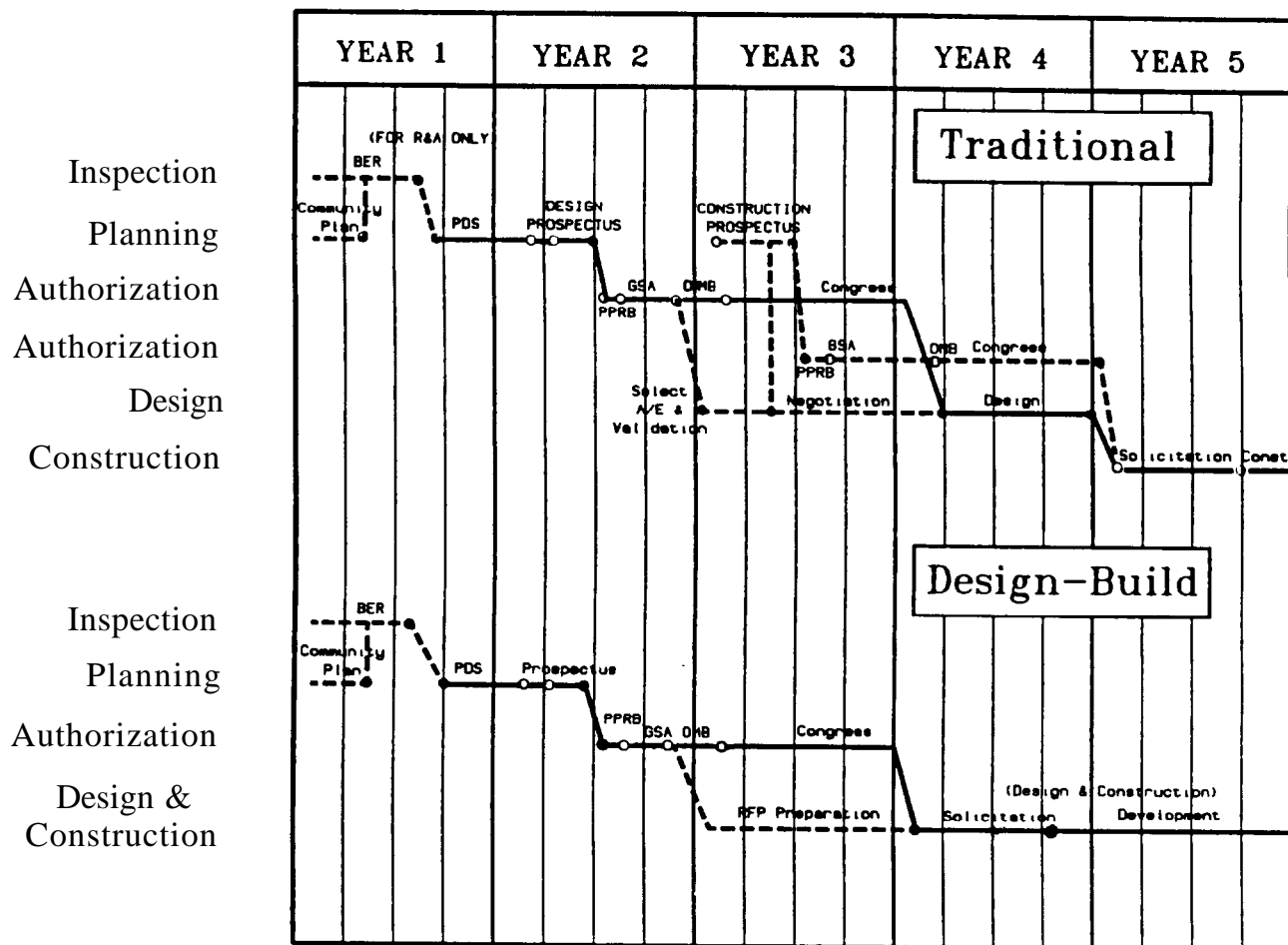
applies. (For example: Design-Build for new construction can be applied to *core* and shell work, leaving tenant build-out to other delivery methods). For new construction, GSA may also include in the PDS scope a requirement to evaluate a traditional delivery alternate featuring a design competition. Once delivery methods are defined, they must be compared considering overall delivery time, cost, and suitability.

Time. The PDS programmer shall prepare both schedule and graphic representation of the two delivery processes. Exhibit 3-1 provides an example of a graphic time-line comparison. Note that the Traditional approach provides separate funding authorizations for design and construction while Design-Build considers only one authorization cycle. The PDS programmer must realistically indicate design durations and opportunities for parallel design and construction activity (fast tracking).

Cost. A reduced project schedule could result in cost savings by avoiding extended leases and/or the effects of inflation. However, use of the Design-Build procurement approach to achieve this reduction in schedule may carry with it a cost premium over the Traditional approach. See Chapter 4 for cost estimating requirements.

Suitability. The suitability of Design-Build is largely based on an ability to clearly define project requirements prior to design/construction and to be assured that these requirements will not change significantly during the actual project delivery. As modifications to a Design-Build contract can eliminate time and cost savings, the PDS programmer shall identify whether project requirements appear well established and stable.

EXHIBIT 3-1 PROJECT DEVELOPMENT PROCESS COMPARISON



DELIVERY PROCEDURES

Implementation strategies must reflect standard delivery procedures and practices. The following milestones (as applicable) must be recognized within the implementation plan and shown in delivery schedules.

Congressional Authorization/Appropriation. Once the design prospectus for Traditional projects is processed by GSA and OMB, it is reviewed for authorization by House and Senate Public Works Committees. The project is then considered by House and Senate Appropriations Committees for inclusion within GSA's funding bill which is subsequently voted upon by Congress. For Traditional projects, the project's construction approval follows the same path the following year in reviewing a construction prospectus. Congressional authorization and appropriation of both design and construction occur in a single budget cycle for Design-Build projects. (Refer to Exhibit 3-1 for authorization periods.) Only after Congressional appropriation, at the start of the fiscal year, should schedules indicate the award of delivery contracts.

Site Acquisition. Site purchase, as a part of the prospectus process, requires Congressional authorization and appropriation. The site investigation process may begin after the prospectus has been submitted to Congress, but an award for site can not be made until after appropriation has been received. Funding may not be obligated until land title sufficiency is established/approved in accordance with U.S.C. 255.

Design A/E Selection/Procurement. For a Traditional procurement, A/E selection can be initiated following GSA review and approval of the design prospectus. At this point, the project can proceed through project negotiation and validation. However, the contract for design services cannot be obligated until Congress has appropriated design funding. Under a Design-Build procurement, the Request For Proposal (RFP) may

not be issued, nor a contract awarded until Congress has appropriated the project based upon the design/construction prospectus.

Site Preparation. Advance site preparation can be accomplished prior to design completion and the beginning of construction. Advance site preparation could include demolition, environmental clearing (such as asbestos abatement or storage tank removal), utility contracting, excavation, security fencing/barricades, provision of site access drives, etc.

Telecommunications Procurement. The tenant agency will typically be responsible for the purchase, installation and maintenance of all telecommunications (voice and data) equipment/instruments, horizontal and vertical local area network cabling, and horizontal wiring from wire closets to instruments. As such, the tenant agency will provide recommendations regarding the size, location, and configuration of the support facilities. These support facilities include equipment rooms, closets, conduits, risers, other pathways, etc. It is important that facility requirements be incorporated into the design program so the design can support this critical function. IRMS will generally be involved with the tenant agency in identifying these requirements, especially for new construction.

Design Scheduling. Design time can vary depending on the size and/or complexity of the project. To keep the project on schedule, it is advantageous to ensure, design completion so that construction award can occur as early as possible in a fiscal year. For a Design-Build project, contract award should occur as soon as possible within the year that total project funding is appropriated.

Construction Completion. Depending upon project complexity, construction work may require special phasing in order to expedite delivery or to minimize disruption of operations. For new construction,

normal phasing would require foundation work to be phased as a separate contract; followed by a general building contract and finalized by a third phase build-out (or “finishes”) contract. Tenant build-out of swing space for interior finishes, furniture, telephones, etc., must also be programmed where applicable in order to provide a finished space. Tenants may take beneficial occupancy once the project is substantially complete. Final construction closeout can occur once the construction contractor has corrected all punch list items and provided all training, warranties, guarantees, etc.

Moving. The implementation plan should address all scope, schedule, and cost related impacts associated with tenant moves. This includes both final relocations and swing space moves.

Site Excess. If a tenant agency plans to vacate Federal property, and there is no continuing need for the property, then outleases must be terminated and the property reported to the Federal Property Resources Service as excess to the needs of the Public Building Service (PBS). The implementation plan must recognize actions and costs associated with disposal. This includes satisfying safety regulations and standards regarding asbestos, PCBs, underground storage tanks, fire/lifesafety, etc.

Lease Termination. When terminating a lease, GSA and/or tenant agencies may be required to restore a property to its condition before the Government took occupancy. Based upon the terms of involved lease contracts, regional Real Estate must establish required actions and projected costs for lease terminations.

SCHEDULING

Implementation strategies must include an address of schedule, showing critical events and delivery procedures from time of GSA budget authorization to beneficial occupancy. All events such as budget cycles/approvals, NEPA compliance actions, site acquisition, transfer of communications and data processing, tenant build-out, moves, tenant orientation, lease terminations/relocations, etc., must be clearly identified as milestones on the schedule. The schedule should also recognize critical sequences of construction and seasonal advantages and restrictions where applicable for certain types of work. This detailed planning schedule is invaluable in evaluating the overall project feasibility. See Exhibit 3-2: Implementation Strategy Scheduling for an example of the level of development required. In lieu of this modified CPM schedule, a Gantt type timeline chart is also acceptable.

EXHIBIT 3-2a IMPLEMENTATION STRATEGY SCHEDULING

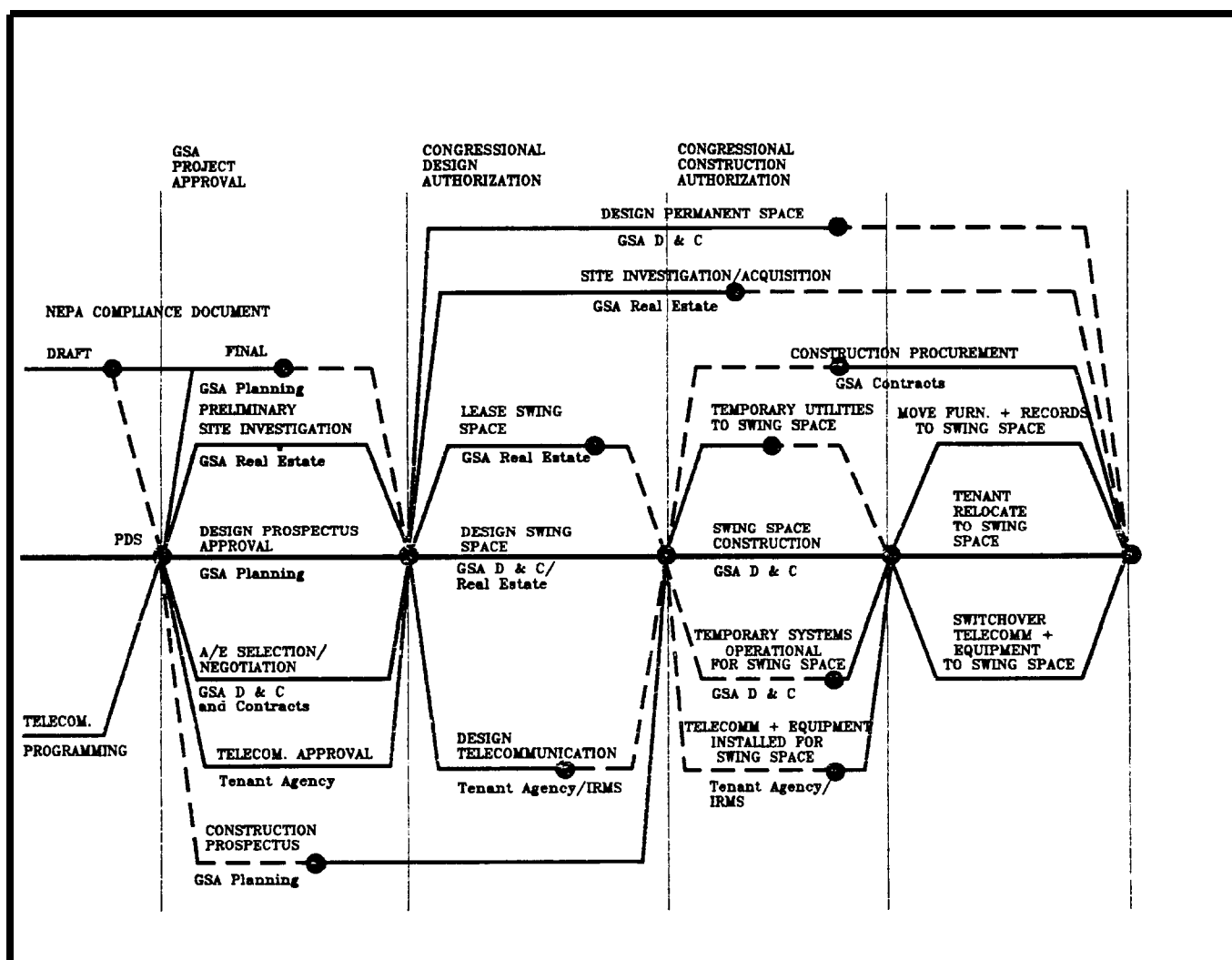
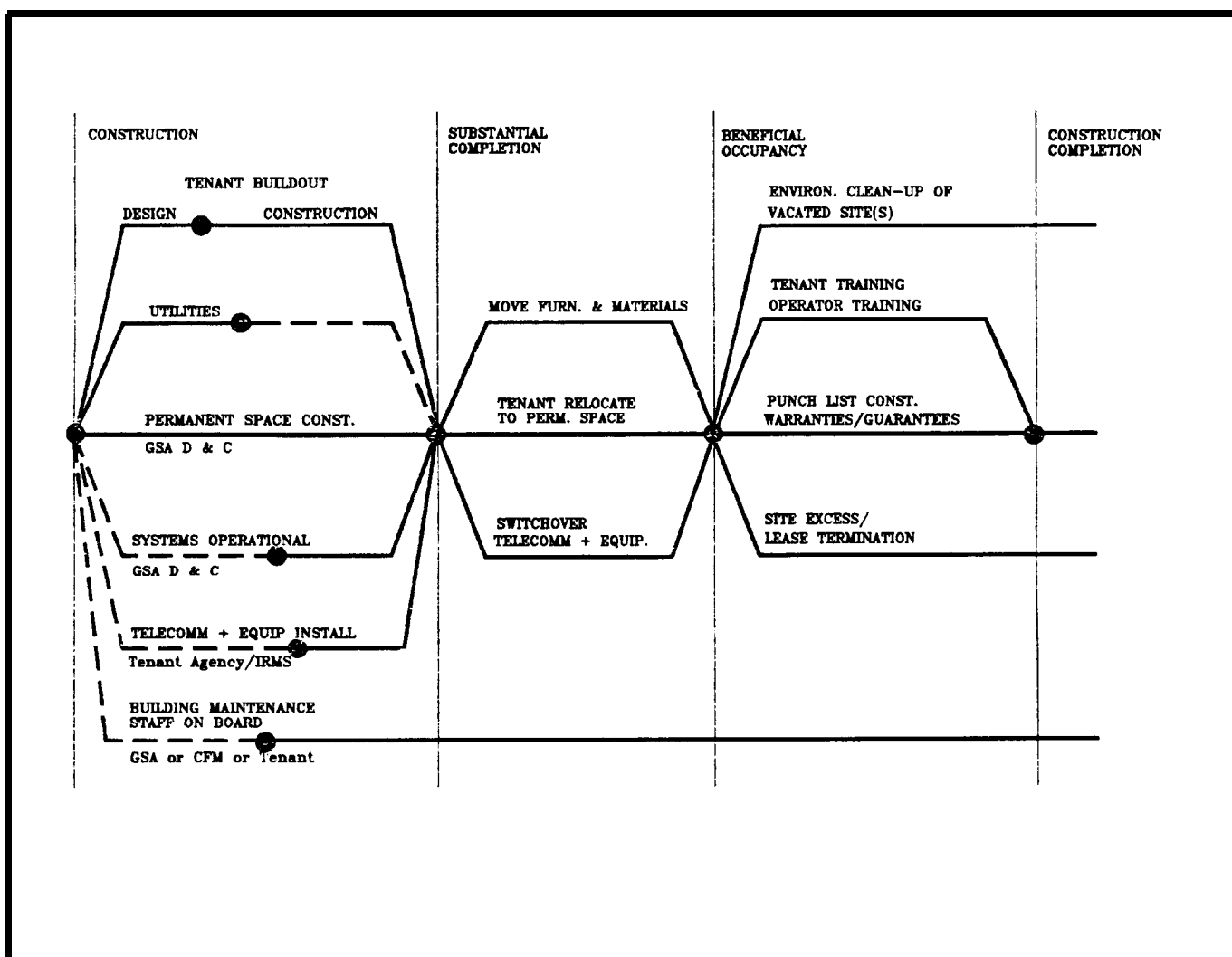


EXHIBIT 3-2b IMPLEMENTATION STRATEGY SCHEDULING (Continued)



CHAPTER 4.

COST ESTIMATING

COST ESTIMATING PRACTICES

Development. Based upon project requirements, a PDS should propose a single project, supported by a project specific design program and implementation strategy. With the proposed project, cost estimates must be presented that reflect all associated delivery costs. During the 50 and 90 percent PDS submissions, different directions may be considered by the programmer and/or GSA. As such, there will typically be a requirement to conduct various iterations of estimates leading to final project definition,

Estimate Basis. PDS cost estimates are budgetary in nature and typically reflect costs based upon overall system costs per square foot or complete feature unit cost. Subsystem cost itemization is not generally appropriate. Where programming direction is not specific, estimate integrity requires cost elements to reflect feasible and appropriate assumptions. As project requirements can change, itemized features and systems must be described for a basis of estimate adjustment.

Estimating Sources. Construction costs shall be provided by professional estimation. Other estimated costs are to be provided by GSA staffs as noted. A statement should be offered in the PDS report that identifies the organizational source(s) of cost estimates. Within each estimate unit cost sources should be generally described: Individual unit price source descriptions is not appropriate.

Cost Estimate Format. GSA Forms 3596 and 3597 are provided to support cost estimating requirements for New Construction and Alteration projects, respectively. Each form contains five tabbed sections; Project Data, Estimated Total Project Costs, Estimated Reimbursable Costs, Estimated Tenant Relocation Costs, and Project Coordination. Detailed instructions for completing each section is provided within the form.

Project Data. For New Construction, this section provides a housing plan analysis, a methodology for determining building configuration based on the housing plan, and a conceptual description of the building/project. For Alteration projects, this section provides a housing plan analysis, and a conceptual description of the building/project.

Estimated Total Project Costs. Cost estimates for GSA funded new construction are to be presented in UNIFORMAT (Level 3), as reflected within the GSA handbook “Project Estimating Requirements” (PBS P 3440.5). This allows a direct relationship between conceptual building systems and unit cost work elements, as well as a means of relating to GSA's national cost data base. Cost estimates for GSA funded alterations are to be organized by individual Work Items, each developed using UNIFORMAT (Level 3) building system elements or a format of comparable detail.

Estimated Reimbursable Costs. Provide an itemized accounting of reimbursable construction work and related professional services. Itemized costs will typically address above-standard facility needs. This accounting provides a basis of project cost management and a means of budgetary planning for impacted agencies. Caution should be exercised in relating to the Facilities Standards for the Public Buildings Service and other design criteria issuances as they may not distinguish between standard and above standard

features. Reimbursable costs are not to be reflected within the sections for Estimated Total Project Costs nor Estimated Tenant Relocation Costs.

Estimated Tenant Relocation Costs. This section addresses the relocation/impact costs required to implement the proposed project. By recognizing required implementation actions and associated funding needs, roles and responsibilities are defined. The programmer must reflect decisions reached between GSA and tenant agencies for the cost, year of occurrence, and funding source. Estimated costs in this section are to be approximated, serving only to influence decisions based upon general cost impact.

Project Coordination. The referenced cost forms are to serve as a coordination document, providing each involved GSA organization the opportunity to influence project scope, implementation strategy, and associated costs. GSA should coordinate sign-off after PDS development.

COST ASSESSMENTS

PDS Cost References. The PDS report should only address construction related costs. Design Fees and Management/Inspection costs are not to be referenced to provide confidentiality in conducting fee negotiations with professional service contractors who must review the PDS. Cost estimates (GSA Forms 3596/3597) are to be bound separately from the PDS report. Provide a construction cost summary in the PDS report to support design A/E validation efforts as covered within Chapter 2 of the GSA handbook, “Project Estimating Requirements.”

Procurement Approach. Separate cost estimates/assessments must be developed when comparing procurement delivery methods, addressed in Chapter 3. Assessments must identify if cost differences associated with delivery method offset those associated with delivery schedule. GSA must identify all space rental/lease cost impacts.

Project Scope Cost Impacts. The PDS report must identify any scope requirement which is driving the project. Unusual conditions or performance requirements which are significantly raising costs must be identified to assure an address of their need.

Implementation Strategy Impacts. In addition to cost assessments which relate to procurement options, identify conditions/implementation actions which significantly influence project costs. Examples include requirements for off-hour work, accelerated schedules, work in occupied space, extensive phasing, etc. Any implementation action which appears to have significant impact to the project should be identified with alternate actions discussed.

Design/Review and Construction Management/Inspection. Preparation of cost estimates for design, construction management and site cost components are the responsibilities of GSA staff, and should be documented on GSA Form 3596 or 3597 after the PDS is completed. These estimates can be established for most projects by using the GSA “Design and Construction Services (B/A 90) Look-up Tables.” Where the PDS requires special services, GSA staff should perform supplemented man-hour assessment to adjust look-up table allowances.

CHAPTER 5. CONTRACT SERVICES

A/E SERVICES

Depending on the nature of the project, preparing a PDS generally requires the participation of many disciplines, working under a demanding time frame to produce a thorough, coordinated report. Given the personnel resources required, it is recommended that this task be contracted to an A/E firm under a regional Indefinite Quantity Contract (IQC), or to the Central Office National IQC for Project Development Services. Regional resources can then be applied to monitoring and reviewing the product of the PDS contractor, assuring that the resulting study is consistent with GSA guidelines and meets scope of work requirements.

Consultant Services. For some projects, the preparation of a PDS must be supplemented with expert consultant services. This may be the case for projects involving asbestos removal/abatement, seismic safety, energy conservation, telecommunications, fire protection, and other specialty functions. As a general rule, programming for specialty functions that potentially involve more than \$1,000,000 in construction should be supported by a specialty consultant.

SCOPE OF WORK

The scope of work for a Prospectus Development Study is prepared by GSA Regional Offices and must provide sufficient information to the PDS

Contractor to develop a proposal. The scope must be specific in describing required tasks, deliverables, approach, and schedule, along with any constraints which may impact the PDS Contractor's efforts. A sample scope of work is provided in Exhibit 5-1, with italic notation where project specific information must be inserted by GSA. If used, the sample scope must be tailored to suit the particular needs of the project.

Statement of Services. The scope must clearly identify all tasks and deliverables. The level of effort may be reflected by referencing this guide and selected sample instructional statements within this guide's appendix. The required level of programming development can be reflected by referencing an appropriate Building Systems/Functional Objectives Matrix. Key Government employee and/or organization contacts should be identified to assure an understanding of program office coordination requirements. Roles and responsibilities must also be emphasized should they differ from or involve other sources than those described by this guide.

Specialty Studies/Consultants. Specialty studies should be separately treated within the scope to emphasize specific requirements. Should a specialty consultant be required, the consultant's role must be clear; reviewer or author.

Coordination With Other Studies. As indicated by previous chapters, other project development studies may have either been completed or be ongoing. Building Engineering Reports, NEPA compliance studies, telecommunications programming, and master plans are examples where the PDS contractor may require scope direction as to expected information exchange.

EXHIBIT 5-1
SCOPE OF WORK
FOR
PROSPECTUS DEVELOPMENT STUDY

Contract No.: _____
Work Order: _____
Date: _____

I. PROJECT IDENTIFICATION

A. Title: _____
B. Agency: _____
C. Location: _____

II. SCOPE OBJECTIVES

- A. Prepare a Prospectus Development Study (PDS) for the identified construction project, establishing the project's design program, implementation strategy, and budget.
- B. Through the design program, establish project scope and design requirements that are contractually specific, enabling GSA to use the PDS as the basis for the project's design scope of work.
- C. Coordinate with GSA and involved tenant agencies to identify required implementation actions, there-by assuring common expectations and project feasibility.

111. PROJECT BACKGROUND

- A. *Provide general background information outlining the basic problems which established project need.*
- B. *Briefly describe overall project expectations and critical functional objectives. Reference an attached Functional Objectives/Building Systems Matrix, as indicated in Chapter 2 of the PDS Guide.*
- c. *Identify general concerns or constraints that may impact PDS preparation.*

IV. STATEMENT OF SERVICES

- A. prospectus Development Study (PDS). The Contractor shall prepare a PDS for the indicated project, conforming to the content direction within the PDS Guide.
 - 1. Design Programming. Programming directives shall be developed to reflect the level of importance indicated on the attached Functional Objectives/Building Systems Matrix. *Identify areas of special emphasis/significance as they relate to the design program.*
 - 2. Implementation Plan. The Contractor shall evaluate all implementation issues and procedures addressed within the PDS Guide. *Identify any special implementation issues and/or procedures.*
 - 3. Cost Estimating. 'The contractor shall prepare cost estimates as addressed within the PDS Guide, requiring the completion of GSA Form [3596] [3597]. This form maybe hand written.
- B. Approach. PDS preparation shall include the work itemized on the attached Programming Instructions. *The attachment may be based upon sample programming instructions within this guide's appendix material. Instructions must be selected edited/adapted to suit project requirements.*
- c. *Special Study Requirements. If applicable, identify study requirements which are outside the scope of the PDS Guide Appendix. Such might involve providing a BER, special environmental studies, seismic safety investigations, special tests/measurements, master planning efforts, design review services, etc. Describe content and approach requirements.*
- D. Format. The study shall be presented in sections as indicated below. Those sections marked with an "*" are to be separately bound from the main study document. Narrative portions of the PDS shall be typed. All PDS materials shall be provided in comb or 3-ring binders. All original text shall be electronically formatted onto diskettes using WordPerfect 5.1.

Executive Summary 1 . A summary statement of project need, critical programming issues, implementation strategy schedule/concerns and estimated construction costs. Do not exceed three typed pages.

- Introduction. Provide an introduction to the main PDS report, indicating PDS purpose and overall project description.
- Project Justification. Within the main PDS report, identify what is driving the development of the project, including what might happen should it not be done.
- Design Program. Within the main PDS report, organize design directives into categories as referenced within the PDS Guide.
- Implementation Strategy. Identify all critical implementation issues/procedures. Assess procurement options in terms of suitability and time/cost impacts. Present schedules and time charts as indicated within the PDS Guide.
- Project Budget. Present an overview of construction costs, including a discussion of critical cost issues.
- PDS Appendices *. Provide appendix materials which support the overall understanding of the PDS report. The following must be included.
 - This PDS Scope of Work
 - Contacts List
 - Summary Listing of All Referenced Documents
 - GSA Form [35%] [3597] *

v. SUBMISSIONS, PRESENTATIONS, AND REVIEWS

The PDS will be developed through three submissions; corresponding to 50 percent, 90 percent, and Final completion levels.

- A. 50% Submission. The 50 percent documents will consist of an intermediate draft of text and graphics, including cover and table of contents. AU PDS text shall be presented in an annotated outline form with enough detail to describe major issues/direction. Include the Functional Objectives/Building Systems Matrix. Major conflicts and project decisions will be indicated. An outline of the implementation strategy alternatives being considered must also be presented in this submission. Preliminary cost assessments shall be made for major

building features and/or implementation actions which appear to be driving the project's cost. Provide a preliminary assessment of important implementation strategy issues (e.g. swing space availability, telecommunication availability, utility company rebates, etc.).

- B. 90% Submission. The 90 percent documents must provide complete text and graphics, including cover, table of contents, introduction, description of existing conditions, design program, implementation strategy, and project budget. Sketches may be used to represent final graphic material. GSA Form [3596] [3597] must be complete as described within the PDS Guide. *This submission allows the regional staff and Central Office to make a coordinated assessment to ensure that the design directions, implementation strategy, schedule and budget will meet GSA and tenant expectations.*
- C. Final Submission. The document must be complete in all respects with all graphics/exhibits appropriately incorporated in the text. All previous GSA comments must be resolved. All PDS Appendix material (including GSA Form [3596] [3597] must be provided in final form.
- D. Quantities. The Contractor shall provide GSA [12] copies of the 50 percent and 90 percent submittals: [Of these, the Contractor shall directly send a copy to [PMR and] PQS in the GSA Central Office, allowing the identification of weak areas prior to the Planning Call process.] Provide [25] copies of the Final Submittal. With the final submission, provide two sets of electronic media diskettes (i.e. two copies). *These quantities should be adjusted to reflect project requirements. Distribution of the Final will typically be 15 to the Region (and Tenant agencies), 6 to competing design A/E's, and 4 to Central Office. Keep one set of electronic media (disks) for regional use and send one set to the Central Office for the PBS Technology Transfer System. Consider sending the 90% submission to the Central Office for an early review of PDS content.*
- E. Presentations. *Include this paragraph only if the project warrants. The Contractor shall provide a formal presentation to GSA and tenant agencies at the [50% and] 90% submission levels. [At the 50% presentation, the Contractor should review the document, and focus discussion around critical and/or unresolved issues.] At the 90% presentation, the Contractor should review the completed document, and focus discussion on how critical issues were resolved for the project.*

- F. Comment Resolution. The Contractor shall formally respond to all written review comments from GSA and tenant agencies within two weeks of receipt. This response, directed to the COTR, should indicate agreement/disagreement, and how the concern will be addressed within the next submission or resubmission.

VI. ADMINISTRATION

- A. Government Officials. The following individuals represent the Government in the conduct of this Work Order.

Contracting Officer (CO)	_____	()	—	—
Cont. Officer's Rep. (COR)	_____	()	—	—
Cont. Officer's Tech. Rep. (COTR)	_____	()	—	—

- B. Meetings.

1. The Contractor shall have one (1) kickoff meeting with the GSA Contracting Officer's Representative (COR), the Contracting Officer's Technical Representative (COTR), and other designated GSA and tenant agency representatives, to discuss procedures and methods for contract development.

2. *For large projects, regular progress meetings may be necessary as follows:* Biweekly progress meetings will be held to set and clarify project goals and policies, project constraints, design directive content, submission schedule, and other relevant project information.

3. Technical meetings shall be held and initiated as required by the Contractor to resolve issues and establish project direction.

4. All surveys, interviews, and inspection work at the site shall be coordinated with GSA. All required contacts with local government and private sector organizations shall be coordinated through GSA.

- C. Administrative Record

1. The Contractor shall maintain an Administrative Record (the Record) of all activities carried out under this contract Scope. The Record shall include copies of all correspondence, meeting notes, and key

telephone conversations. The Record shall include all comments received from any source on all draft and final documents prepared under this scope. The Record shall be submitted to the Contracting Officer's Representative (COR) upon project completion.

2. The Contractor shall prepare and distribute a Meeting Report (minutes) within three (3) working days following all regular meetings, presentation% or other important but informal meetings with GSA and/or involved agencies. Meeting Reports shall be distributed to the COTR and all meeting participants to ensure coordination and agreement on important issues.

D. Schedule. The PDS is to be completed within [] weeks from the Notice to Proceed. The schedule for project delivery is as follows:

Task	<u>Elaine Time</u>
50% submission	[6][8][10] weeks
GSA and Agency Review	[1][2] weeks
90% submission	[4][5][6] weeks
GSA and Agency Review	[1][2] weeks
Final submission	[1] week

The submission levels and performance time frames listed above should be adjusted to reflect specific project requirements. For large projects, PDS schedule control may require the following: Within two (2) weeks following the kickoff meeting, the Contractor shall present to the COTR a detailed PDS schedule for approval. This schedule shall be in the form of a Gantt or CPM chart, and shall show the amount of time required for specific tasks, milestone dates, and Government review and approval times. The Contractor shall be responsible for maintaining this schedule and updating it for biweekly progress meetings.

VII. PAYMENT SCHEDULE FOR SERVICES

A. Upon review and acceptance of the 50% Submission, the Contractor may submit an invoice for 50% of the total contract amount. Upon review and acceptance of the 90% and Final Submissions, the Contractor may submit invoices for 90% and 100% of the total contract amount respectively, less amounts previously paid. The final payment invoice must include a signed Release of Claims by the Contractor. *On large projects, it may be*

appropriate to allow monthly billing, as long as the total amount being billed does not exceed the major Submission milestones for work completed.

- B. In order to expedite payment, the Contractor shall include the following information in each invoice.:
1. Firm name, address and telephone number
The words "Original Invoice"
ACT. NO. (as shown on the award letter)
GSA Contract Number
Modification Number
A short description of services that the billing represents
 2. Send all ORIGINAL INVOICES to:
Provide appropriate address...

VIII. GOVERNMENT INFORMATION SOURCES

- A. The following Documentation will be made available to the PDS Contractor.
- Prospectus Development Study Guide
Facilities Standards for the Public Buildings Service.
Cost Estimating Requirements,@ GSA Form [3596] [3597].
[Building Engineering Report]
[Building Drawings]
etc.
- B. An attachment to this scope lists initial points of contact which must be consulted to define project scope and implementation concerns. Consultation with Government personnel will be as their schedules permit. The Contractor shall expand this listing as necessary to fully establish project requirements and shall provide a complete listing of all contacts in the PDS Appendix.

End - Scope of Work.

COSTS FOR PDS CONTRACT SERVICES

The professional services costs for a Prospectus Development Study includes the A/E programmer who prepares the document, all specialty consultant/subcontract costs, and other direct costs such as travel, printing and communications. When requesting a proposal from the programmer, require a detailed man-hour analysis for each major task, along with an associated cost breakdown. This will allow negotiation discussions to focus on the level of effort and will assure a mutual understanding of the work required.

Personnel Impact. Professional services generally account for the majority of costs in producing a PDS. Given the extensive coordination and strategic planning required, there should be a high level of involvement from an experienced project manager for the PDS Contractor. Depending on the nature of the work, senior level architects and/or engineers will be required to lead the analysis within each discipline. Junior level support can be provided to each discipline in order to maintain an efficient and economical mix of personnel.

Task Impacts. Work elements which can significantly affect PDS costs include:

Coordination Meetings. Most meetings require attendance by the PDS Contractor's project manager and senior architect and/or engineers. Time for each meeting includes preparation, travel, actual meeting time, and record keeping. As a result, meetings should be kept to a minimum without sacrificing quality or control of the project.

Analysis of Alternatives. The more options or alternatives for the PDS Contractor to analyze, the more the PDS will cost. It is recommended that the scope limit the study of alternatives, focusing only on those that would significantly affect construction cost or implementation.

Alternatives should generally be developed for the 50 percent presentation, where a decision can be made by GSA and involved agencies as to the preferred alternative for the final report. The final PDS should present the basis of the GSA decision and put forth the best plan, not a menu of options or alternatives for decision later.

Availability of Information. The more information the PDS Contractor is provided up front, the less time the Contractor needs to allocate in the Proposal for data gathering. Depending on the project, availability of asbuilt information, BER and/or space programming information can be critical. Without this information, the Contractor may have to conduct extensive interviews and/or surveys to understand project requirements. The Scope of Work should be specific as to what information will be made available and what must be done with it.

NEW CONSTRUCTION APPENDIX

Programming Instructions. The following programming instructions are sample work statements. They can be selected as appropriate and/or edited by GSA to direct the level of effort in preparing the PDS design program, implementation strategy, and cost assessments. As listed scope statements are not inclusive of all possible applications, GSA may have to supplement this appendix with additional work statements. Conversely, many sample work statements may not be appropriate for some projects, particularly if programming issues have already been investigated and resolved. Known project requirements should be referenced in PDS scope statements to reduce programming effort.

GENERAL BUILDING REQUIREMENTS

This instructional section lists major tasks that support developing design directives for space requirements, building form, and operation.

Housing Plan/Space Requirement

- ☐ List all agencies that the Real Estate Division has identified as possible tenants. Through interviews with each agency, verify occupiable space needs by categories listed below. List major groups or divisions within the agency and the number of employees per group. (Reference: Federal Property Management Regulations (FPMR) Appendix A Part 101-17 Assignment and Utilization of space.)

<u>Office Space</u>		<u>Special Space</u>	<u>Storage Space</u>
Open	SP-1A	Laboratories	ST-1 General Storage Area
Closed	SP-1B	Private Toilets, Clinics, Health Care Facilities	ST-2 Inside Parking Area
	SP-2	Food Service Area	ST-3 Warehouse Area
	SP-3A	Structurally Ganged Area	
	SP-3B	Courtrooms	
	SP-4	Automated Data Processing Area	
	SP-5A	Conference and Classrooms/Training Facilities	
	SP-5B	Hearing Room - Judiciary	
	SP-SC	Judiciary Chambers - Us. Courts	
	SP-6	Light Industrial Area	
	SP-7	Quarters and Residential Housing Area	

- ☐ For each agency, summarize the reported square footage requirements and establish occupancy growth quantities. If change is greater than 10 percent, confirm the figure with the Real Estate Division.
- ☐ From regional Real Estate and Planning Staff, identify if there are alternative housing strategies and, if so, their impact on building area requirements. For example, with a combined Federal Building - Courts project, should the building include only planned expansion space or allow for structurally altered space throughout.
- ☐ After discussions with Real Estate and Planning Staff, describe if it is better to allow for expansion within the building or provide for a possible future annex or extension.

- ☐ From Real Estate, identify whatever level of housing plan uncertainty exists, listing other possible tenants.
- ☐ Consult with GSA Real Estate to establish GSA-defined occupiable SF. After confirming with the Real Estate Division, adjust earlier housing plan data to reflect new requirements.
- ☐ Apply a circulation factor to the occupiable square footage for the space requirements as classified above. This factor should follow acceptable space planning practices and should be agreed upon by the government agencies involved and the Real Estate Division.
- ☐ Convert the occupiable SF to gross SF using GSA criteria.

Special Requirements

- ☐ For each involved space type, establish special requirements and explain. Examples include:
 - Special Security and/or Firesafety Systems
 - Special Telecommunication Needs, Including: High Number of Standard Phone Lines, Telex Lines, Data Transfer Lines, and Others
 - Special Plumbing Requirements
 - Independent HVAC Operation and/a Tight Control Tolerances
 - Special Ventilation Requirements
 - Special Ceiling Heights
 - Column-Free Areas
 - Raised Flooring
 - Special Floor Loading
 - Adjacency/Access to the Elevators, Loading Docks, etc.
 - Acoustical Treatments
 - “Essential” Space for Seismic Considerations
 - Lighting Levels In Excess of FPMR Allowances
- ☐ Identify if a specialist consultant is required for any special space design.

Building Form

- ☐ Based upon adjacency requirements and site limitations, describe general configuration opportunities. Describe the possible impact the following

considerations may have on the development of building concepts:

- Site configuration, Topography, Neighboring Architecture, and Scale
- Zoning Regulations: (Height limits, Setback Requirements, Floor Area Ratio Limits, Parking Requirements)
- Special Functional Requirements: (High Ceilings in Courtrooms, High Security for prisoner Movement, Column-Free Spaces for Special Equipment)
- Construction Cost and Operating Cost Efficiencies: (Energy Conserving Features for Low Life-Cycle Costs, High Proportion of Usable Space)

- ☐ Identify if alternate design concepts are required and how many. Describe constraints and/or general massing/configuration which should be reflected in the design A/E's design concept submission(s).
- ☐ Identify existing buildings in the immediate vicinity which must be considered in siting the new building (e.g. an existing facility to be linked to the new building by tunnel or walkway structure).
- ☐ To support cost estimates, identify probable building footprint(s) considering building area requirements, site area, typical floor plate, and number of stories. Relate these space and configuration needs to zoning regulations of the intended geographic area(s). Emphasize that this should not constrain design solutions.
- ☐ Define desirable architectural characteristics that influence the building's image by (1) conducting interviews with regional staff and tenants, (2) providing photographs to document and illustrate specific aspects of an appropriate and/or inappropriate image, and (3) emphasizing features considered desirable (e.g. atria, courtyards, fountains, etc.).
- ☐ Describe requirements associated with complimenting the surrounding neighborhood/structures and area/city master plans.

Operations/Services

- ☐ Identify each building component/system anticipated that would benefit from an extended guarantee/warranty and explain why.
- ☐ Identify types of maintenance service contracting anticipated to care for sophisticated systems within the building. Consider service contracts for the HVAC system, BAS (energy management system, fire protection system, security *system*), conveyance systems, etc.

- ☐ Determine if a Commercial Facility Management (CFM) contractor is planned for the building. If so, describe the CFM's general scope of services as it relates to project impacted building features. Also, describe CFM coordination requirements to utilize the CAD design system/data base with contracted facility management functions.

- ☐ Identify the applicable regulations regarding solid waste (trash) disposal, including separation of trash for recycling purposes, storage, site/building access, etc. Determine if there are applicable alternatives for on-site trash collection, temporary storage, and trash removal. Identify the type and approximate quantity of trash anticipated from the proposed building occupancy and associated facility support needs.

FUNCTIONAL OBJECTIVES

This section of sample instructional statements addresses functional objectives and/or project themes that may define tenant agency and GSA program expectations. The following subheadings are provided as examples and must be supplemented/changed to reflect project requirements. The subheadings should be selected from those chosen for the Functional Objectives/Building Systems Matrix (See Exhibit 2-1, Chapter 2).

Tenant Productivity

- ☐ For building systems that support tenant operations, identify concerns for reliability, modularity, and redundant design.
- ☐ Establish if systems furniture will be reflected in project requirements and if so indicate the features to be provided to support productivity.
- ☐ Discuss the intended use of office automation and associated impacts on building system designs.
- ☐ Identify the various space utilization rates for each area to indicate the efficiency with which the area is used.

Space Flexibility

- ☐ Identify spaces that are to be flexible in their design to the extent that they may be reconfigured, altered, consolidated, or relocated to meet future requirements.
- ☐ Indicate if the space is to be flexible for the installation of special equipment such as data processing, telecommunications, or office automation.
- ☐ Identify modular and/or moveable components of building features and systems needed to assure space flexibility.

Seismic Safety

- ☐ Reference applicable sections within codes, standards, handbooks, and guidelines necessary to achieve seismic safety. Identify exceptions to directions therein to suit project needs. Identify any special design procedures/studies.

- ☐ Prepare a seismic history report, comparing past and current code requirements, locations of nearest faults, and severity of previous quakes.
- ☐ Identify if involved building spaces are considered “essential” or “critical.”
- ☐ From existing seismic studies discuss exceptions to be made in design criteria from that represented within codes and/or the “Facilities Standards for the Public Buildings Service.”
- ☐ Describe the level of design effort required to study options and verify solutions (e.g. modeling, ground motion studies, etc.).
- ☐ Indicate if a specialist consultant is required and if so, identify if a geological hazard report is required. (Use for those facilities judged to be of major importance for which earthquake damage would pose a significant risk to either life or property.)
- ☐ Identify seismic requirements for structures other than buildings, mechanical and electrical equipment utility systems distribution, and other non-structural building elements.

Thermal Integrity/Moisture Protection

- ☐ Identify special envelop design criteria/guidelines and design review procedures to address thermal integrity/moisture protection.
- ☐ Indicate if a specialist consultant is required to design involved building features/systems. (A consultant may be required where tight humidity control, severe wind loads, or unusual climate conditions exist.)
- ☐ Identify if thermographic and/or infiltration measurements are to be required during construction to verify design assumptions. Identify if envelope mock-ups are to be tested by laboratory measurement during construction to establish thermal performance.
- ☐ Identify any unusual soil/water table conditions that may affect the foundation or below grade occupancies.

- ☐ Indicate special requirements for thermal and/or moisture protection to provide healthy working conditions for occupants and intended space use.

Energy Efficiency

- ☐ Reference applicable sections within codes, standards, handbooks, and guidelines necessary to achieve energy efficiency. Identify exceptions to directions therein to suit project needs. Identify any special design procedures/studies.
- ☐ Based upon general programming requirements, perform a preliminary energy analysis to forecast overall building annual energy consumption. Apply bin load or simplified hourly programs. Coordinate all input with GSA prior to simulation.
- ☐ Indicate that the A/E is to perform computer based energy analyses to forecast overall building annual energy consumption. Identify the type of analysis required and that GSA must approve all input prior to simulation.

Water Conservation

- ☐ Reference applicable sections within codes, standards, handbooks, and guidelines necessary to achieve water conservation. Identify exceptions to directions therein to suit project needs. Identify any special design procedures/studies.
- ☐ Identify if special technologies are to be applied. Address rain water storage, grey water systems, etc. Identify if there are any quantity/quality restrictions in the use of water systems.
- ☐ Describe metering and control of water use. Address metering of site watering, kitchen space, toilet rooms, HVAC, etc. If a BAS is available, discuss remote metering/report opportunities.
- ☐ Identify general design features and conservation techniques that minimize need (e.g. low flow fixtures, automatic flow control, low water using plants etc.).

Durability/Maintainability

- ☐ Summarize general requirements for equipment/material longevity and durability.

- ☐ Indicate current operation and maintenance staff capabilities, relating to their ability to accommodate new systems and features.

Emergency Systems/Reliability

- ☐ Identify building codes and design criteria regarding emergency (back-up) systems. Identify general requirements of providing redundant building equipment possible failure frequencies, and down-time impacts.
- ☐ Interview GSA staff to determine GSA application/capacity requirements for emergency power and identify equipment requiring uninterruptible power.

Expandability

- ☐ From interviews with GSA Real Estate, Design/Construction, and tenants, identify any requirements for expandability of space, equipment or systems.

Materials Handling

- ☐ Emphasize importance of proper clearances, ramping, and staging areas for loading platforms, trash rooms, storage space, entrances, crafts/maintenance shops, etc.
- ☐ Identify special material handling requirements addressing sizes, weights quantities, delivery means, etc.
- ☐ Indicate if freight elevators, conveyors, or other material handling systems are warranted. Coordinate with UNIFORMAT System 7.0 directives.

Accessibility

- ☐ Identify applicable building codes and GSA regulations. Cite the Uniform Federal Accessibility Standards (Federal Standard 795).
- ☐ Identify occupancies and functional requirements not requiring accessibility for individuals with disabilities.

- ☐ Identify site constraints requiring special accessibility features (e.g. involving hilly locations, lack of adjacent parking, etc.).

Acoustic Quality

- ☐ Describe the various types of spaces addressed in the project and discuss the required noise criteria (NC) levels.
- ☐ Describe possible sources of excessive noise which would require special acoustical control.
- ☐ Indicate preferred systems that minimize noise interference and provide the required level of privacy.
- ☐ Identify spaces which require background sound masking for privacy.
- ☐ Indicate if an acoustical consultant is required (e.g. for auditoriums, press rooms, major conference areas, etc.).

Security

- ☐ From interviews with GSA staff, identify any requirements necessary to minimize security risk to persons and property. Security shall be provided for facilities to protect against vandalism, burglary, sabotage, and espionage.
- ☐ Identify the “level” of security required for involved building/site areas.

Fire/Life Safety

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines necessary to achieve fire/life safety. Identify exceptions to directions therein to suit project needs. Identify any special design procedures.
- ☐ Describe building hazard classifications as to contents and occupancies.

Health/Environmental Conditions

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines necessary to achieve health/environmental safety. Refer to criteria within the GSA document “Safety and Environmental Management Program,”

available through the Regional Real Property Management and Safety Division. Identify exceptions to directions within references to suit project needs. Identify any special design procedures/studies.

- ☐ Identify whether building operations generate or store hazardous waste, describing types and amounts involved. Discuss design features/actions required to control hazardous operations.

Building Automation

- ☐ Based upon interviews with GSA staff, indicate the desired level of building automation in the context of operating staff and tenant interactions with operating systems.
- ☐ Identify overall control strategies and system architecture.

Innovative Technologies

- ☐ Identify that proven advanced technologies are sought for all building features and systems.
- ☐ Identify critical building systems/features which should be targeted to apply innovative technologies and refer them to appropriate design directives within the PDS program.

UNIFORMAT BUILDING SYSTEMS

This section of the appendix provides sample programming instructions to develop project design directives categorized by UNIFORMAT building systems.

1.0 FOUNDATIONS

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features, including soil boring tests/analyses and associated reports.
- ☐ Identify the involved seismic zone. Indicate if a Geologist or Seismologist is required during design to identify active faults in the region and type of displacements expected.
- ☐ Describe typical foundations for similar structures in the general area(s) of consideration, with due consideration to building age and loadings.

If the site is unknown...

- ☐ Conduct a review of recorded soil boring test reports within the general area of consideration, describing soil variations and foundation implications.

If the site is known or if multiple site options exist...

- ☐ Coordinate with Real Estate and the Planning Staff to identify site location(s) and concerns. Describe foundation alternates based upon existing soils analysis reports for the site(s) and/or adjacent property development.
- ☐ If there are no existing soils investigation reports which can be referenced, perform a preliminary subsurface soil exploration to determine general soil bearing capacity and water table conditions. Provide at least one soil boring per 20,000 square feet with a minimum of two soil borings per site. Have a Geotechnical Engineer prepare a geotechnical report which includes recommendations for the building's foundation.
- ☐ Conduct a groundwater contamination study to determine if site de-watering can be discharged to local sewers. Coordinate with programming requirements for 12.1 Site Data[, and functional objectives for Health/environmental Conditions].

2.0 SUBSTRUCTURE

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Discuss if the installation/future removal of below grade mechanical and electrical equipment will be a design issue.
- ☐ If in a seismic zone 3 or 4, identify if base isolation structural supports are to be investigated, and if so, the means of analysis.

3.0 SUPERSTRUCTURE

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system Selection/features.
- ☐ Discuss applicable seismic and wind load considerations for the local area.
- ☐ Identify special floor loading requirements.
- ☐ Determine if raised flooring is to be applied. Where required identify the load characteristics and if bracing is required.
- ☐ Discuss floor to floor heights and bay size to accommodate the proposed functional spaces. Relate to future expansion needs of structurally altered space.
- ☐ Identify floor flexibility requirements and vertical pathway allowances for power, telecommunications, HVAC risers/ductwork, plumbing, etc.

4.0 EXTERIOR CLOSURE

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs.

Describe special design procedures required to support system selection and features.

4.1 Walls

- ☐ From interviews with the GSA project staff, identify major image factors that may influence wall material choice. If appropriate, use photographs.
- ☐ Summarize acceptable types of exterior cladding. Note modifications or clarifications based on unique building or area use. For example, a records building may require no windows while a computer facility may require lower overall U-value.
- ☐ For energy conservation describe the required design analysis to optimize wall thermal performance and identify design criteria assumptions as to insulation effectiveness and infiltration allowances.
- ☐ Indicate if a vapor retarder and/or an infiltration barrier is to be provided.
- ☐ Identify if special design review procedures are to be applied to address thermal integrity and moisture transfer.
- ☐ Identify if exterior wall systems require special inspections/tests during construction (e.g. meek-up wall test using laboratory hot box, thermography, tracer gas infiltration measurements, etc.) to confirm envelope thermal performance.

4.2 Exterior Doors and Windows

- ☐ State GSA performance priorities (e.g. as energy conservation, security, ventilation control, views, historic district considerations, etc.) so the design A/E may make appropriate trade-off analyses. Require the design A/E to provide a statement of the rationale behind the choice of the windows and an analysis of how this choice responds to stated priorities.
- ☐ State the amount of glass (percent window to wall) and type of glass (single, double, reflective, etc.) used for estimating project cost.
- ☐ Indicate how amounts of glazing and type of glazing will be optimized. referencing life cycle costs methods, criteria, etc.

- ☐ Identify special requirements for smoke evacuation, accessibility, security, energy conservation, etc.

5.0 ROOFING

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Identify special conditions that the roof structure, covering, and drainage must respond to (e.g. average peak rainfall, snow load, fire resistance, insulation requirements, chemical resistance, wind loads, structural loads, and anticipated service life).
- ☐ Identify special fire resistance ratings for roofing systems (e.g. 1-hour class A). Describe roof specialties (e.g. explosion relief vents, fire vents, etc.). From interviews with management personnel, identify special rooftop activities.
- ☐ Discuss preferences for either low sloped (flat) or pitched roofing. Discuss whether atrium and/or skylight construction is appropriate or desirable for the project.
- ☐ Identify energy conservation requirements.

6.0 INTERIOR CONSTRUCTION

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Discuss the impact of automatic sprinkler protection on interior construction with regards to design flexibility and cost.

6.1 Partitions

- ☐ From discussions with Real Mate and impacted tenant agencies, describe amounts and types of partitioned space versus open office space.
- ☐ Describe those spaces requiring special partition performance (e.g. fire rating, acoustical performance, security requirements).
- ☐ Quantify above standard partition system requirements.

6.2 Interior Finishes

- ☐ Identify special requirements relating to light reflectance, durability, appearance, low maintenance, sound absorption, and indoor air pollution.
- ☐ Quantify areas requiring special finishes and types of finishes. Provide a table identifying special finishes and performance characteristics for these areas.
- ☐ Identify whether special finishes are to be paid by GSA or the tenant.

Flooring

- ☐ Discuss special flooring requirements for public spaces, computer areas, elevator lobbies, laboratories, etc.
- ☐ Identify requirements for raised floor (height, load ratings, type preferred, security, and seismic safety). Describe requirements for cable ducting, if any.

Graphics (Signage)

- ☐ Identify source of graphics criteria.
- ☐ Summarize special graphics requirements.

Hardware

- ☐ Describe card-key access requirements and areas to be protected by such a system.

- ☐ Identify any special hardware/equipment requirements, such as for security, environmental control, firesafety, etc.

6.3 Egress Systems

- ☐ Identify criteria/code references pertaining to stairwells (number and location), fire escapes, corridor widths, and areas of refuge.

6.4 Mock-ups/Examples

- ☐ For projects involving more than 200,000 occupiable square feet of new office space and/or furniture, establish a directive for the designer to require the construction contractor to build a 500-1,000 square foot mock-up/demonstration of involved features. The mock-up area should be constructed in government owned space and be fitted with all finishes, lighting or other systems components to indicate how interior features work together.
- ☐ If new building features are to match or be like existing building components, identify example items, desired features (if appropriate), and example location. Consider items such as:
 - Casework
 - Carpet/Wall Coverings
 - Great Seals of the United States
 - Etc.

7.0 CONVEYANCE SYSTEMS

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe vertical circulation performance requirements for the proposed and future occupancy; including people, material, and equipment.
- ☐ Identify spaces which may require escalators versus elevators.
- ☐ Coordinate conveyance systems finishes with the architectural requirements.

8.0 MECHANICAL

8.1 Plumbing

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe water and sewer service requirements based upon projected and future occupancies.
- ☐ Discuss if there are any quantity/quality restrictions in the use of the water and sewer systems.
- ☐ Identify if unusual metering requirements exist. If sprinkler/standpipe services must be metered, coordinate with fire protection design directive for pressure drop impacts.
- ☐ For the site(s) involved, identify age, condition, and type of water and sewer services to the site. From city records, determine if service pipes contain lead, and if so, the impact on project design.
- ☐ If the site is not known, identify general features and condition of water and sewer services to the intended area(s).
- ☐ Describe specialty areas that require special plumbing (i.e., darkrooms, kitchens, print shops, laboratories, battery or transformer rooms, etc.), and the type of systems required.
- ☐ Describe accessibility requirements. Identify if accessibility features are to be applied to all toilet fixtures,
- ☐ Identify if heat recovery options are applicable.
- ☐ Identify application objectives, design criteria/procedures for providing a renewable (solar) energy system interface.
- ☐ Describe water conservation measures/features to be applied. Indicate if water storage or grey water systems are to be used.

8.2 Heating, Ventilation and Air Conditioning Systems

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Discuss if the site and/or local environmental conditions affect HVAC design requirements. Consider issues such as area radon exposure classification, stack emissions, traffic exhaust, etc.
- ☐ Describe acceptable HVAC system(s) for the building, relating efficiency, special control features, flexibility, reliability, maintainability, noise, and other performance issues. When several systems appear equally suited to the project, identify those systems and instruct the design A/E to make the determination based on a life cycle analysis. If so instructed by GSA, describe a baseline HVAC system to be used in all comparisons.
- ☐ Coordinate automatic temperature control features with Building Automation System (BAS) design directive.
- ☐ Describe automatic cleaning and/or chemical treatment features.
- ☐ Describe opportunities and analysis requirements for energy efficient design considering applications of high efficiency equipment renewable energy resources, heat recovery systems, energy management controls, etc.
- ☐ Discuss energy availability to the building's HVAC systems, including natural gas, fuel oil, commercial steam, and electricity. Describe local constraints on energy use (e.g. history of electrical brownouts, high rate structure, air pollution restrictions, etc.).
- ☐ Discuss utility company rebate opportunities (application procedures and potential savings).

8.3 Fire Protection

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Identify all occupancy types/classifications proposed for the project, and the various hazard ratings associated with them.
- ☐ Discuss the need for total building sprinkler protection considering building height, size, occupancy classification, construction, and agency mission. If only partial sprinkler protection is warranted, discuss impact to interior construction features. Discuss the need for interior standpipes and their interface with sprinkler systems.
- ☐ Identify the size and location of water mains and determine the available fire flow and residual pressure at the nearest hydrant. Discuss water supply system features (e.g. reserve storage tanks, meters. etc.) required to meet local codes.
- ☐ Discuss the need for a fire pump based upon the pressure requirements of the sprinkler system demand.
- ☐ Identify specialty areas that may require fire suppression systems other than wet pipe sprinklers (e.g. loading dock food service exhaust hoods/plenums, etc.).
- ☐ Indicate if a fire protection engineer is required for design. (Required where fire protection construction costs are expected to exceed \$200,000.)

8.4 Special Mechanical Systems

- ☐ Discuss whether there are requirements for special mechanical systems such as process equipment, central vacuuming, special air cleaning/filtration, fume hoods, exhaust purification scrubbers, swimming pool systems, trash burners, etc. Indicate if specialist consultants are required.
- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.

9.0 ELECTRICAL

9.1 Service and Distribution

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe power service to the site, including rate structure. Identify any load shedding requirements by the power company.
- ☐ Describe site power and telecommunication system distribution. Identify the requirements of both the power and telephone utility companies regarding primary services, feeders, transformers and other equipment.
- ☐ Identify power service requirements for proposed and future occupancies. Watts per square foot discussions must address assumed diversity factors.
- ☐ Identify metering requirements (e.g. separate metering for commercial spaces, computer spaces, HVAC plant equipment high load areas, etc.). Indicate if meters support BAS operations.
- ☐ Describe a baseline type of building power distribution system to be evaluated with those proposed by the design A/E. Incorporate emergency power requirements into this baseline statement.

9.2 Lighting and Power

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Discuss the feasibility and operating issues of utilizing emergency power services as a load shedding means. Address the approximate size of the fuel storage required and rating impacts.

- ☐ Identify any spaces and equipment which have special power requirements (i.e. computer rooms, kitchens, security spaces, etc.).
- ☐ Identify the various types of spaces addressed in the project, and for each space list the recommended lighting levels and power density (watt/sf).
- ☐ Identify if occupancy sensor control is preferred or if BAS zone control is appropriate.
- ☐ Discuss task lighting interface with furniture systems.
- ☐ Describe requirements for site or area lighting/power (e.g. areas served, lighting control, illumination levels, power access, etc.).

9.3 Special Electrical Systems

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.

Building Automation System (BAS)

- ☐ Identify building systems (equipment) and operations which could benefit from a BAS, including: HVAC and energy management functions, lighting, elevators, fire safety, security, building maintenance, etc. Either direct a BAS application or indicate design selection/life cycle cost procedures to be applied in determining if such a system should be applied.
- ☐ Discuss control strategies to be applied (e.g. demand control, optimized start-stop, ventilation economizer operations, etc.). Coordinate with the HVAC design directive.
- ☐ Describe BAS architecture and represent with a bubble diagram of system components. Coordinate with firesafety/security directives.

Security

- ☐ Describe security requirements for the project's perimeter and interior features/spaces.

- ☐ Identify appropriate security devices (e.g., card readers, door contacts, motion detectors, break glass detectors, etc.) to accommodate security requirements.
- ☐ Describe the security systems control/alarm interface with elevators, door locks, telephone service, area lighting, etc.
- ☐ Identify the type of security system recommended. Identify if complete systems are to be provided or simply empty conduit for future installation by others.
- ☐ Identify if there is a requirement for BAS interface. If so, describe special BAS functional requirements. Coordinate with the BAS design directive.
- ☐ Identify if package/personnel inspection is required. Determine if X-ray inspection equipment will be used: If so, determine if equipment will be part of the project or provided by others.
- ☐ Describe special voice masking or “white sound” equipment needs.
- ☐ Describe automated data processing/communications systems shielding/filtering requirements if applicable.

Emergency Light and Power

- ☐ Identify requirement for emergency power, given the proposed occupancy and involved emergency equipment/lighting.
- ☐ Determine if an UPS system is required for ADP and telecommunication systems.

Building Grounding Systems

- ☐ Describe grounding system requirements for special computer or telecommunications equipment.

9.4 Telecommunications

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system Selection/features.
- ☐ [Through findings obtained from the GSA Telecommunications Technical Services Contract (TTSC)] [Through the Tenant Agency and/or the Information Resources Management Service (IRMS)], identify the type of communication services/equipment to be provided and whether these are to be included in the project.
- ☐ Identify if teleconferencing is to be provided, and if so, discuss facility and system requirements.
- ☐ Identify facility support requirements (e.g. spare need, security, pathways (conduit), support, HVAC performance, etc.) for the following:
 - Switch (PABX) Installation(s)
 - Wire/Communication Closets
 - Antenna, Satellite Dshes, and Other Outside Network Links
 - Local Area Networks

9.5 Fire Detection/Alarm Systems

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe fire alarm system features. Describe BAS interface.
- ☐ Discuss the need for any smoke and/or heat detection systems.
- ☐ Describe requirements for tie-in of any new fire alarm systems to existing systems within other buildings.

11.0 EQUIPMENT

- ☐ Identify if fixed equipment is to be a part of the project. This might include equipment for kitchens, laboratories, firing ranges, medical units, audio-visual systems, parking control, detention (prison/jail) facilities, postal operations, etc.
- ☐ Identify if vaults are required. If so, describe the type and size.
- ☐ Describe whether existing and/or new furniture will be involved. Describe quantity and identify types.
- ☐ Determine if material handling equipment will be provided (e.g. cranes, conveyors, pneumatic tubing, etc.).
- ☐ Identify anticipated functions or operations in the building that may benefit from the use of robotics (e.g. mail handling, security, floor cleaning, etc.). For each application, establish special facility requirements and associated costs.

12.0 SITE WORK

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support selected site features. Describe pending regulations which might impact the project, such as a sewer moratorium.

12.1 Site Data

If the site is known or if multiple site options exist..

- ☐ Obtain a legal description of the site(s) including a plot plan and written description. Address property owner, metes and bounds, area of site, and other pertinent information. Easements and encumbrances should be emphasized.
- ☐ Obtain a topographic map that identifies the elevations, grades, and other geographic features of the site. Describe possible building placement options.

- ☐ Based upon building area requirements (including future expansion needs) identify probable building footprint(s), site area, typical floor plate, and number of stories. Relate these space and configuration needs to local codes and zoning regulations.
- ☐ Identify relevant planning studies which influence site development, including but not limited to:
 - Master Plans
 - Development Plans for Adjacent properties and Sensitive Land Uses
 - Transportation Plans for Area
 - Geotechnical Studies
- ☐ Discuss the project's likelihood of affecting an archaeological site.
- ☐ Describe neighboring structures and their line of sight. Discuss antenna angle obstruction effects for the building and surrounding facilities.
- ☐ Discuss what preparation can begin before design is completed (e.g. demolition, environmental clearing (asbestos abatement and storage tank removal), utility contracting, excavation, security fencing/barricading, site access drives, etc.).
- ☐ From soil boring and test pit reports or from existing soil boring tests adjacent to the property, identify subsurface conditions that may impact the cost or feasibility of new construction. Determine if special design studies may be necessary (e.g. ground water testing, etc.).
- ☐ From local government records and/or NEPA compliance studies identify site environmental conditions which may impact project cost or feasibility. Coordinate site investigation findings and design directives with those involved with NEPA compliance studies.
- ☐ For site demolition, identify the locations, types, conditions, and quantities of all asbestos containing materials that may impact the project. Discuss appropriate abatement actions.
- ☐ For site demolition, identify the quantity and size of all fluid filled electrical transformers and capacitors containing PCBs. Identify what actions are necessary to be in conformance with current regulations (including EPA 40 CFR Part 761).

- ☐ Identify the size, age, type, condition (if possible) and location of all underground storage tanks on site that may be impacted by the project. Identify content and current utilization of the UST(s).
- ☐ Through field tests, identify the amount of contamination caused by existing UST(s) and piping. Identify what actions are required.

For an Undetermined Site

- ☐ Identify general site requirement and/or analyses required of the site based on the project scope and building program.
- ☐ Based upon tenant space and operating requirements identify at least general locations considered appropriate and identify typical soil conditions of each.
- ☐ Based upon building area requirements (including future expansion needs) identify probable building footprint(s), site area, typical floor plate, and number of stories. Relate these space and configuration needs to zoning regulations of the intended geographic area(s).
- ☐ Identify local government codes, regulations, and approval processes which could be critical to the project. Coordinate with the Implementation Strategy portion of the PDS. Consider the following
 - Zoning
 - Accessibility For Individuals With Disabilities
 - Historic Reservation
 - Environment Hazards
 - Demolition/Waste Removal
 - Water/Sewer Connections/Metering
 - Wetlands/Flood Plain
 - Parking/Transportation

12.2 Site Improvements

Parking

- ☐ From agency interviews, (and/or NEPA compliance documents) determine the projected parking needs and the allocated official parking requirements for

building tenants. Develop a table that shows parking square footage requirements by type (tenant personnel, visitor, government motor pool, special vehicle, delivery, taxi, individuals with disabilities, etc.).

- ☐ From code/zoning documents, identify the amount of site parking space required (or prohibited). Correlate the regulations to project size and occupancy.
- ☐ Identify the amount of structured parking required and coordinate with other design directives.
- ☐ For a stand alone parking structure, prepare an independent set of design programming directives, matching PDS content/format addressed by this scope. Also, prepare a dedicated cost estimate, GSA Form 3596.
- ☐ Determine loading requirements (types of delivery vehicles, turning radius impacts, etc.). Identify local jurisdiction regulations concerning loading zones.

Site Development/Landscaping

- ☐ Identify types of outdoor spaces required by the building program (e.g. circulation, landscaped areas, plazas, playgrounds for day care, courtyards, rooftop gardens, and equipment areas).
- ☐ Identify fire safety access requirements as they relate to road design/setbacks.
- ☐ Identify the likelihood of extensive grading.
- ☐ Identify if pedestrian and/or vehicular bridges or tunnels will be required to allow passage from one building/site area to another.
- ☐ Confirm the feasibility of vehicular access to the site (i.e. the ability to get curb cuts, ramps and turning lanes).
- ☐ Confirm adequate site access, considering the volume of traffic and transportation improvements (intersections and interchanges).
- ☐ Identify existing vegetation and areas which will require new landscaping. Identify security issues that may impact landscaping.

12.3 Site Utilities

- ☐ Identify the availability, capacities, pressures, age, and method of distribution of each type of utility available. Coordinate findings with design directives for plumbing and firesafety systems.

Water Supply and Distribution

- ☐ Identify if the project has special water use requirements.

If the site is known...

- ☐ Indicate whether the water supply is adequate. Identify if a water pumping/pressure maintenance system is required.

Drainage and Sewerage Systems

- ☐ Identify any special local conditions affecting storm water design.
- ☐ Describe local conditions and agency requirements (such as the use of chemicals) that would affect the sanitary sewer design.

If the site is known...

- ☐ From site soil borings/water samples, establish if site de-watering can be discharged into local storm sewers.
- ☐ Discuss possible storm water management measures that may be necessary for this project (e.g. storm water retention ponds).
- ☐ Describe the adequacy of sanitary sewer service. Indicate if sanitary lift stations and force mains are needed.

IMPLEMENTATION STRATEGY

This section of the appendix provides sample instructions to support developing an implementation strategy and schedule for the project.

Site Acquisition

- ☐ Identify site acquisition procedural constraints (e.g. Congressional authorization and appropriation, site investigation(s), site selection, development of NEPA compliance document, etc.).
- ☐ Describe site demolition and clearance procedural requirements.

Space Management

- ☐ Identify if existing leases will require extension before the new facilities will be available. If extensions are required, indicate expected process/costs.
- ☐ Determine if an accelerated schedule is practical and will reduce costs.
- ☐ Identify swing space requirements and whether provided through lease space and/or government-owned space.
- ☐ Assess tenant build-out requirements for swing space (e.g. interior finishes, partitioning, furniture, power, firesafety, telecommunications, etc.). Describe build-out procurement scheduling to accommodate swing space needs.

Government Approvals

- ☐ Discuss prospectus approval milestones involving GSA, the Office of Management and Budget, and Congress.
- ☐ After conferring with the regional Planning Staff, coordinate with identified local, state and Federal authorities to determine required approvals, procedures, and associated scheduling concerns.
- ☐ Identify procedural requirements of local boards/authorities such as code authorities, zoning boards, health departments, fine arts commissions, county development boards, etc.

- ☐ Coordinate with Facility Planning general schedule allowances for NEPA compliance procedures, including GSA development of a NEPA Compliance Document and subsequent issuance of a NEPA Record of Decision by the GSA.
- ☐ Identify applicable regulations of State and Federal authorities such as State Environmental Agencies, State Historic Preservation Office, and/or the National Advisory Council on Historic Preservation.

Agency Mission Interruption

- ☐ Identify potential interruptions to both the Agency's internal operations and external contact with the public. Discuss ways to mitigate problems.
- ☐ Coordinate scheduling needs with tenant agencies and GSA's regional Planning Staff and Real Estate offices.

Utilities and Special Systems/Coordination

- ☐ Discuss general procedure/schedule requirements for impacted utilities and special systems, including moving, excessing, installation, replacement, testing, and performance certification.
- ☐ Identify telecommunications roles/responsibilities and scheduling impacts to provide required design and construction services, including relocation or replacement of existing equipment, system instruments, wiring/cabling, switch and network installation, maintenance, facility support, etc.

Building Operation

- ☐ For the construction period discuss how building operations/maintenance will be achieved and any support requirements for services.
- ☐ Describe the need to train GSA operators, contractors, and tenant agency personal in the operation/use of the facility.

Environmental Impact

- ☐ Discuss actions which may be needed to mitigate environmental impact such as contaminant testing, special handling of materials, time of day restrictions, etc.
- ☐ Identify the process of obtaining reviews and/or approvals of environmental organizations having authority over the project. Coordinate all environmental concerns with the GSA Regional Planning Staff.
- ☐ Describe environmental investigation requirements regarding lease termination or property excessing procedures.

Construction Phasing

- ☐ Discuss construction phasing which may be required to facilitate tenant relocations and/or maintenance of building operations. If fast tracking is recommended, identify approximate schedule of contract award and construction periods.
- ☐ Determine if core-shell construction should be handled separately from interior finishes work.
- ☐ Identify if certain construction work is subject to time of year development, such as the consideration of heating and/or refrigeration plant work.

Procurement Strategy

- ☐ Define the implementation strategies used to evaluate Traditional and Design-Build procurement options. Identify if multiple contract packages are required or desirable.
- ☐ Discuss pros and cons of Traditional and Design-Build procurement approaches relative to schedule. Discuss the appropriateness of Design-Build relative to uncertainty in tenant requirements and time related cost impacts.
- ☐ Describe schedule impacts and cost to pursue a design competition. Coordinate with Regional Design and Construction to establish procedures and typical compensation.

COST ESTIMATING

This section provides sample programming instructions which should be considered when developing PDS scope requirements for project cost estimating assessments.

General

- ☐ Complete GSA Form 35% to represent Reject Data, Estimated Total Project Costs, Estimated Reimbursable Costs, and Estimated Tenant Relocation Costs. Follow directions contained thereon.
- ☐ For the 50 percent PDS submission, identify programming requirements and/or implementation strategy requirements which have significant impact on overall project costs. Coordinate with Design and Construction on ways to mitigate unacceptable costs. Represent final decisions/rationale for the purchase of high cost items in the 90 percent submission.
- ☐ Identify any critical implementation action which, if not successful, could have severe impact on project costs.

Project Data

- ☐ Transfer housing plan analysis data to represent the various space typed in the building and establish building gross square foot requirements.
- ☐ Summarize building features and unit cost parameters which are used in the cost estimate,

Estimated Total Project Costs

- ☐ Provide a budgetary estimate of GSA project costs, detailed for UNIFORMAT Level 3 system elements. Represent both Traditional and Design-Build delivery methods on indicated cost summary sheets.
- ☐ Perform a procurement cost comparison between Traditional and Design-Build delivery methods based upon GSA approved procurement approaches and

implementation strategies. Use a separate GSA Form 3596 for each delivery alternate. If the selected Design-Build procurement approach assumes that a portion of the project will be delivered using Traditional methods (such as for tenant build-out), use the Project Cost Summary Sheet for each method, with the combined costs summarized as a split delivery project.

- ☐ Should special consultant services (testing or studies) be required to support design solutions, the programmer shall define work elements and man-hour/cost estimates. GSA will subsequently apply these cost allowances in completing GSA Form 35%.

Estimated Reimbursable Costs

- ☐ Coordinate with GSA Real Estate to identify costs to be assumed by others. These include “above standard” costs and/or other reimbursable services.
- ☐ Participate in coordination meetings between GSA and involved tenants to address reimbursable costs. Provide each impacted tenant with a cost estimate of their required payment and be prepared to discuss its basis.

Estimated Tenant Relocation Costs

- ☐ Coordinate with GSA Real Estate to establish “order of magnitude” estimates to accommodate space planning, swing space alterations, moving costs, telecommunications, special equipment relocations, leased space costs, operating cost impacts, and special equipment/service lease requirements. For all types of procurement evaluated, identify the year(s) these costs will be incurred and the funding source of each. Establish from GSA Real Estate a recognition of funding sources,
- ☐ Estimate approximate costs associated with build-out of tenant swing space.
- ☐ Estimate approximate telecommunication costs based upon programming direction from tenants and/or GSA IRMS sources. Confirm telecommunication cost allowances for facility support.

ALTERATIONS APPENDIX

Programming Instructions. The following programming instructions are sample work statements. They can be selected as appropriate and/or edited by GSA to direct the level of effort in preparing the PDS design program, implementation strategy, and cost assessments. As listed scope statements are not inclusive of all possible applications, GSA may have to supplement this appendix with additional work statements. Conversely, many sample work statements may not be appropriate for some projects, particularly if programming issues have already been investigated and resolved. Known project requirements and/or conditions assessments should be referenced in PDS scope statements to reduce programming effort.

GENERAL BUILDING REQUIREMENTS

This section provides sample programming tasks that define space requirements. Consider the following if tenant agency existing space requirements/allocations will be modified by the project.

Housing Plan/Space Requirement

- ☐ List all agencies that the Real Estate Division has identified as possible tenants. Through interviews, verify occupiable space needs by categories listed below. List major groups or divisions within the agency and the number of employees per group. (Reference: Federal Property Management Regulations (FPMR) Appendix A Part 101-17 Assignment and Utilization of Space).

<u>Office Space</u>		<u>Special Space</u>		<u>Storage Space</u>
Open	SP-1A	Laboratories	ST-1	General Storage Area
Closed	SP-1B	Private Toilets, Clinics, Health Care Facilities	ST-2	Inside Parking Area
	SP-2	Food Service Area	ST-3	Warehouse Area
	SP-3A	Structurally Changed Area		
	SP-3B	Courtrooms		
	SP-4	Automated Data processing Area		
	SP-5A	Conference and Classrooms/Training Facilities		
	SP-5B	Hearing Room - Judiciary		
	SP-5C	Judiciary Chambers - U.S. Courts		
	SP-6	Light Industrial Area		
	SP-7	Quarters and Residential Housing Area		

- ☐ Identify the (occupiable) space requirements by space type for each affected agency group and compare to the existing occupiable square footage.
- ☐ For each agency, summarize the reported square footage requirements and establish occupancy growth quantities. If change is greater than 10 percent, confirm figure with the Real Estate Division.
- ☐ The Real Estate Division should be consulted to establish GSA defined occupiable SF. After conferring with the Real Estate Division, adjust earlier housing plan data to reflect new requirements. Identify whatever levels of housing plan uncertainty exists noting possible other tenants that might be substituted.

- ☐ Compare existing building circulation with the circulation requirements of new space. New circulation requirements should follow acceptable space planning practices and should be agreed upon by the tenant agencies involved and the Real Estate Division.
- ☐ Identify gross square footage of the project's impacted areas from scaled building plan measurements when possible.

Special Requirements

- ☐ For each involved space type, establish special requirements and explain. Examples include:
 - Special Security and/or Firesafety Systems
 - Special Telecommunication Needs, Including High Number of Standard Phone Lines, Telex Lines, Data Transfer Lines, and Others
 - Special Plumbing Requirements
 - Independent WAC Operation and/or Tight (Control Tolerances
 - Special Ventilation (or Filtration) Needs
 - Special Ceiling Heights
 - Raised Flooring
 - Acoustical Treatments
 - Adjacency/Access to Elevators, Loading Docks, Etc.
 - "Essential" Space Seismic Considerations
 - Lighting Levels In Excess of FPMR Allowances
- ☐ Identify if a specialist consultant is required for any special space design.

Operations/Services

- ☐ Identify each building component/system anticipated that would benefit from an extended guarantee/warranty and explain why.
- ☐ Identify types of maintenance service contracting anticipated to care for sophisticated systems within the building. Consider service contracts for the HVAC system, BAS (energy management system, fire protection/security systems, conveyance systems, etc.

- ☐ Determine if a Commercial Facility Management (CFM) contractor is planned or is in use at the building. If so, describe the CFM's general scope of services as it relates to project impacted building features.

- ☐ Identify applicable regulations regarding solid waste (trash) disposal, including separation of trash for recycling purposes, storage, site/building access, etc. Identify the type and approximate quantity of trash anticipated from the proposed building occupancy and associated facility support needs. Determine if there are alternatives for on-site trash collection and removal.

FUNCTIONAL OBJECTIVES

This section of sample instructional statements addresses functional objectives and/or project themes that may define tenant agency and GSA program expectations. The following subheadings are provided as examples and must be supplemented/changed to reflect project requirements. The subheadings should be selected from those chosen for the Functional Objectives/Building Systems Matrix (See Exhibit 2-1, Chapter 2).

Tenant Productivity

- ☐ For building systems that support tenant operations, identify concerns for reliability, modularity, and redundant design.
- ☐ Establish if systems furniture will be reflected in project requirements and if so indicate the features to be provided to support productivity.
- ☐ Discuss the intended use of office automation and associated impacts on building system designs.
- ☐ Identify the various space utilization rates for each area to indicate the efficiency with which the area is used.
- ☐ Indicate if a space utilization survey is required; involving a site inspection to evaluate the manner in which space assignments are being utilized.

Space Flexibility

- ☐ Identify those spaces which must be flexible in their design to the extent that they may be reconfigured, altered, consolidated, or relocated to meet future requirements.
- ☐ Indicate those spaces which must be flexible for the installation of special equipment such as data processing, telecommunications, or office automation.
- ☐ Identify modular and/or moveable components of building features and systems needed to assure space flexibility.

Seismic Safety

- ☐ Reference applicable sections within codes, standards, handbooks, and guidelines necessary to achieve seismic safety. Identify exceptions to directions therein to suit project needs. Identify any special design procedures/studies.
- ☐ Prepare a seismic history report, comparing past and current code requirements, nearest fault locations, and severity of past quakes.
- ☐ Identify if involved building spaces are considered “essential” or “critical.”
- ☐ Describe level of design effort required to study options and verify solutions (e.g. modeling, ground motion studies, etc.).
- ☐ Indicate if a specialist consultant is required. (Use for those facilities judged to be of major importance for which earthquake damage would pose a significant risk to either life or property.)
- ☐ Identify seismic requirements for structures other than buildings, mechanical and electrical equipment utility systems distribution, and other non-structural building elements.
- ☐ Identify the various types of vertical elements needed to transfer lateral forces (i.e. shear walls, braced frames, and moment resisting frames).
- ☐ Identify the various types of vertical elements needed to distribute lateral forces to the vertical elements (i.e. diaphragms, horizontal bracing, and moment resisting frames).

Thermal Integrity/Moisture Protection

- ☐ Identify special envelope design criteria/guidelines and design review procedures to address thermal integrity/moisture protection.
- ☐ Indicate if a specialist consultant is required. (A consultant may be required where tight humidity control, severe wind loads, or unusual climate conditions exist.)
- ☐ Identify any unusual soil/water table conditions that affect the foundation or below grade occupancies.

- ☐ Indicate special requirements for thermal and/or moisture protection to provide healthy working conditions for occupants and intended space use.

Energy Efficiency

- ☐ Reference applicable sections within codes, standards, handbooks, and guidelines necessary to achieve energy efficiency. Identify exceptions to directions therein to suit project needs. Identify any special design procedures/studies.
- ☐ Based upon general programming requirements, perform a preliminary energy analysis to forecast overall building annual energy consumption. Apply bin load or simplified hourly programs. Coordinate all input with GSA prior to simulation.
- ☐ Indicate that the A/E is to perform computer based energy analyses to forecast overall building annual energy consumption. Identify the type of analysis required and that GSA must approve all input prior to simulation.

Water Conservation

- ☐ Reference applicable sections within codes, standards, handbooks, and guidelines necessary to achieve water conservation. Identify exceptions to directions therein to suit project needs. Identify any special design procedures/studies.
- ☐ Identify if special technologies are to be applied. Address rain water storage, grey water systems, etc. Identify if there are any quantity/quality restrictions in the use of water systems.
- ☐ Describe metering and control of water use. Address metering of site watering, kitchen space, toilet rooms, HVAC, etc. If a BAS is available, discuss remote metering/report opportunities.
- ☐ Identify design features and conservation techniques that minimize need (e.g. low flow fixtures, automatic flow control, using plantings that do not require much water, etc.).

Durability/Maintainability

- ☐ Summarize general requirements for equipment/material longevity and durability.
- ☐ Indicate current operation and maintenance staff capabilities, relating to their ability to accommodate new systems and features.

Emergency Systems/Reliability

- ☐ Identify building codes and design criteria regarding emergency (back-up) systems. Identify general requirements of providing redundant building equipment, possible failure frequencies, and down-time impacts.
- ☐ Interview GSA staff to determine GSA application/capacity requirements for emergency power and identify equipment requiring uninterruptible power.
- ☐ Indicate existing emergency generator capacity, connected emergency loads, and available room for expansion. Indicate existing fuel Sources/capacities/availability for the emergency systems.

Expandability

- ☐ From interviews with the GSA staff, identify any requirements for expandability of space, equipment, or systems.

Accessibility

- ☐ Identify applicable building codes and GSA regulations. Cite the Uniform Federal Accessibility Standards (Federal Standard 795).
- ☐ Identify occupancies and functional requirements not requiring accessibility for individuals with disabilities.
- ☐ Discuss site constraints requiring special accessibility features (e.g. involving hilly locations, lack of adjacent parking, etc.).

- ☐ Confirm that project impacted building features offer accessibility for individuals with disabilities. Discuss the following
 - Entrance, Exits, Parking
 - Interior Horizontal and Vertical Circulation
 - Passageways, Doors, and Entrance Hardware
 - Plumbing Fixtures and Restroom Accessories
 - Signage

Acoustic Quality

- ☐ Describe the various types of spaces addressed in the project and discuss the required noise criteria (NC) levels.
- ☐ Describe possible sources of excessive noise which would require special acoustical control.
- ☐ Indicate preferred systems that minimize noise interference and provide the required level of privacy.
- ☐ Identify spaces which require background sound masking for privacy.
- ☐ Indicate if an acoustical consultant is required. (e.g. for auditoriums, press rooms, major conference areas, etc.).

Security

- ☐ From interviews with GSA staff, identify any requirements necessary to minimize security risk to persons and property. Security shall be provided for facilities to protect against burglary, theft, sabotage, and espionage.
- ☐ Identify the “level” of security required for involved building areas.

Fire/Life Safety

- ☐ Reference applicable sections within codes, standards, handbooks, and guidelines necessary to achieve fire/life safety. Identify exceptions to directions therein to suit project needs. Identify any special design procedures/studies.
- ☐ Determine the building hazard classifications as to contents and occupancies.

Health/Environmental Condition

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines necessary to achieve Health/Environmental safety. Refer to criteria within the GSA document “Safety and Environmental Management Program.” Identify exceptions to directions within references to suit project needs. Identify any special design procedures/studies.
- ☐ Identify the general locations, type, condition, and extent of asbestos containing material that may impact the project. Coordinate with UNIFORMAT building systems directives.
- ☐ For impacted building areas, identify general locations where lead based paint has been used and discuss options for removal.
- ☐ Identify the size, condition, and location of all fluid filled electrical transformers and capacitors containing polychlorinated biphenyl (PCB) that are impacted by the project. Coordinate actions with the electrical service and distribution directive. Discuss what actions are necessary to be in conformance with current regulations (including EPA 40 CFR Part 761). Coordinate actions with design directives for impacted electrical systems.
- ☐ Describe the location, size, age, type, content, utilization, and condition (if known), of all Underground Storage Tanks (USTs) on site that are impacted by the project. Discuss what actions are required to be in conformance with current regulations (including EPA 40 CFR Parts 280 and 281). Coordinate actions with design directives for impacted building systems.
- ☐ Through field tests, identify the amount of contamination caused by the UST(S) and piping, if any.

- ☐ Through field tests, identify current air quality with regard to radon, carbon dioxide, carbon monoxide, particulate, and volatile organic compounds.
- ☐ Discuss the sources/causes of air contaminants. Describe actions considered necessary to reduce air contaminants and meet defined indoor air quality tolerances. Coordinate with HVAC directives for filtration requirements.
- ☐ Coordinate with regional Real Property Management and Safety to identify indoor air quality testing/certification requirements.
- ☐ Identify lead content and source in the potable water system. Discuss what actions are required to alleviate the lead hazard. Coordinate lead investigation with Plumbing design directives.
- ☐ Identify whether building operations generate or store hazardous waste, describing types and amounts involved. Discuss design features/actions required to control hazardous operations.

Building Automation

- ☐ Identify building operation schedules, addressing normal and after-hours service needs. Describe existing firesafety and security systems/operations. Based upon these findings and interviews with GSA staff, identify the appropriateness of a Building Automation System.
- ☐ Describe general control/monitoring strategies for building operating systems, firesafety equipment and security systems. Indicate which are suited for BAS interface.
- ☐ Identify overall system architecture and general features.

Historic Preservation

- ☐ Reference applicable codes, standards, handbooks, and/or guidelines which are to govern design of historic building features. Identify exceptions to directions

within references to suit project needs. Identify any special studies/tests required.

- ☐ Describe historically significant features to be maintained or restored. Coordinate these decisions with the GSA Regional Historic Preservation Officer.
- ☐ Discuss required care necessary to preserve the facility. GSA orders, “Procedures for Historic Properties” (PBS P 1022.2) and “Procedures for Historic Properties” (ADM 1020.1) are to be used to support compliance with Federal regulations.
- ☐ Discuss the restoration and rehabilitation of historic properties applying the guideline “Maintenance, Repair and Alteration of Historic Buildings (1981).”
- ☐ Discuss rehabilitation options that allow upgrading the facility to current safety, utility, and convenience standards. Reference the documents “Design Analysis of Building Alteration (1981),” and the Secretary of Interior’s “Standard for Rehabilitation.” Coordinate with design directives for mechanical systems, electric power distribution, lighting, lifesafety systems, etc.
- ☐ Identify any special design procedures, studies, and/or field testing required to establish design selection of building features/finishes.

Innovative Technologies

- ☐ Identify whether proven advanced technologies are sought for building features and systems.
- ☐ Identify critical building systems/features which should be targeted to apply innovative technologies and refer them to appropriate design directives within the PDS program.

UNIFORMAT BUILDING SYSTEMS

This section of the appendix provides sample programming instructions to develop design directives categorized by UNIFORMAT building systems.

1.0 FOUNDATIONS

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Review available geotechnical reports for seismic related hazards.
- ☐ Examine building for the evidence of foundation settlement.

2.0 SUBSTRUCTURE

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe existing substructure. Through calculations, verify that the existing or upgraded substructure can sustain proposed changes in loading
- ☐ Identify if installation/removal of below grade mechanical or electrical equipment will be a design issue.

3.0 SUPERSTRUCTURE

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.

- ☐ Describe existing structural system floor load capacities and associated restrictions for placement of space types.
- ☐ Verify that the existing or upgraded structure can sustain changes in loading due to the work to be performed.

4.0 EXTERIOR CLOSURE

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.

4.1 Walls

- ☐ Identify applicable building codes, design criteria, and functional requirements.
- ☐ From BER and/or interviews with the GSA project staff, determine major image factors that may influence wall material choice or modification.
- ☐ Identify the type of repair work required (pointing, material replacements, etc.). Summarize in text and photographs.
- ☐ State acceptable type(s) of exterior cladding.
- ☐ Indicate if insulation and/or a vapor retarder is required and where.
- ☐ Identify if special design review and/or construction inspection procedures are to be applied to address thermal integrity.
- ☐ When accomplishing work on a historic structure, coordinate with the Regional Historic Preservation Officer to determine requirements.

4.2 Exterior Doors and Windows

- ☐ Identify GSA functional priorities (such as energy conservation, security, ventilation control, views, historic preservation, or natural light), so the design A/E may make trade-off analyses.

- ☐ Identify special requirements for smoke evacuation, accessibility, security, energy-conservation, etc.
- ☐ State the type of glass (single, double, reflective, etc.) used for estimating project cost. Indicate how types of glazing are to be optimized, referencing life cycle cost methods, criteria, etc.
- ☐ When accomplishing work on a historic structure establish if original windows can be repaired. If window deterioration is beyond repair, coordinate with the Regional Historic Preservation Officer as to alternatives/requirements.

5.0 ROOFING

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ From interviews with management personnel, verify rooftop activities and maintenance requirements.
- ☐ From analysis of site conditions, verify whether a corrosive atmosphere exists. This might include coastal location salt air, off-site discharges (e.g. a neighboring factory, heating plant stack emissions, etc.) or on-site sources (e.g. kitchen and laboratory exhausts, cooling tower spray, etc.).
- ☐ Verify special conditions that the roof structure, covering, and drainage must respond to (i.e. average peak rainfall, snow load, fire resistance, insulation requirements, chemical resistance, wind loads, structural loads, and anticipated service life).
- ☐ When accomplishing work on historic structures, consult with the Regional Historic Preservation Officer to establish roof requirements.
- ☐ Identify energy conservation requirements.

6.0 INTERIOR CONSTRUCTION

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Discuss the impact of automatic sprinkler protection on interior construction with regards to design flexibility and cost.

6.1 Partitions

- ☐ Identify existing partition types involved with the project and describe performance requirements of those to be provided.
- ☐ Describe those spaces requiring special partition performance (e.g. fire rating, acoustical performance, security requirements).
- ☐ From discussions with Real Estate and impacted tenant agencies. describe amounts/types of closed and open office space.
- ☐ Quantify above standard partition system requirements.
- ☐ Through field test samples, identify if partitions to be demolished contain asbestos.

6.2 Interior Finishes

- ☐ Identify special requirements relating to light reflectance, durability, appearance, maintenance, sound absorption, comfort and indoor air pollution.
- ☐ Identify amount of area requiring special finishes and types of finishes. Provide a table identifying special finishes, and performance characteristics for these areas.
- ☐ Indicate those special finishes and/or hardware which are to be restored or refinished.
- ☐ Identify whether special finishes are to be paid for by GSA or the tenant agency.

- ☐ Through field tests, identify if ceilings tiles and sprayed-on fire-proofing materials contain asbestos.

Flooring

- ☐ Discuss special flooring requirements for public spaces, computer areas, elevator lobbies, laboratories, etc.
- ☐ Identify requirements for raised floor (height, load ratings, type preferred, security, seismic safety).
- ☐ Describe requirements for cable ducting, if any.
- ☐ Identify if flooring material to be disturbed contains asbestos.
- ☐ Identify if ramps are needed to meet handicapped accessibility requirements.

Graphics (Signage)

- ☐ Identify source of graphics criteria.
- ☐ Summarize special graphics requirements.

Hardware

- ☐ Describe card-key access requirements and areas to be protected by the system.
- ☐ Identify any special hardware/equipment requirements (e.g. for security, environmental control, firesafety, etc.).

6.3 Egress Systems

- ☐ Identify criteria/code references pertaining to stairwells, fire escapes, corridor widths, and areas of refuge.

6.4 Mock-up/Examples

- ☐ For projects involving more than 200,000 occupiable square feet of office renovation, identify if there is a need for the designer to require the construction contractor to build a 500-1,000 square foot mock-up/demonstration of involved space features. The mock-up area should be constructed in government-owned space and be fitted with intended furniture, finishes, lighting, HVAC, etc. to indicate how all interior systems/features work together.
- ☐ Identify items and locations of project features that are to match or be like existing building components. Examples might include:
 - Casework
 - Carpet and wall covering
 - Paint/finishes
 - Door types, etc.
 - Lighting
 - Great Seats of the United States
 - Etc.

7.0 CONVEYANCE SYSTEMS

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe if vertical circulation requirements will change for the proposed occupancy (people, material, and equipment),
- ☐ Analyze the effectiveness of existing conveyance systems and identify any major rehabilitation work required to meet projected needs, current codes, and accessibility standards. Relate to life expectancy of equipment considering BER findings and/or maintenance records. Describe control features of new elevators (e.g. audio/voice announcements, emergency recall, fireman capture, etc.)
- ☐ Coordinate finishes of conveyance systems with architectural requirements. Describe any historically significant features of the conveyance systems which are to be restored.

8.0 MECHANICAL

8.1 Plumbing

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe water and sewer service requirements based upon occupancy or building use changes.
- ☐ Discuss if there are any quantity/quality restrictions in the use of the water and sewer systems.
- ☐ Identify if unusual metering requirements exist. If sprinkler standpipe services are to be metered, coordinate with the fire protection design directive for pressure drop impacts.
- ☐ Identify age, condition and type of water and sewer services to the site. From city records/interviews, identify if potable water service piping contains lead, and if so, discuss project impacts.
- ☐ Determine if plumbing fixtures meet projected occupancy requirements and accessibility standards. Identify if accessibility features are to be applied to all involved toilet fixtures.
- ☐ Describe areas that require special plumbing (i.e., darkrooms, kitchens, print shops, laboratories, battery or transformer rooms, etc.), and the type of systems required.
- ☐ Identify if heat recovery options are applicable.
- ☐ Describe water conservation measures/features to be applied.

8.2 Heating, Ventilation and Air Conditioning Systems

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Establish and/or validate HVAC requirements and approximate thermal loads for involved space types. Discuss suitability of proposed work to existing building systems/equipment. Describe HVAC systems/equipment to be replaced.
- ☐ Review potential environmental concerns in providing HVAC alterations (e.g. control of asbestos, particulate, VOCs, carbon monoxide, etc.). Discuss control through elimination of source, filtration, or ventilation).
- ☐ Discuss if the site and/or local environmental conditions affect HVAC design requirements. Consider issues such as area radon exposure classification, stack emissions, traffic exhaust, etc.
- ☐ Identify requirements for seasonal construction phasing for equipment/systems shut-down.
- ☐ Where entire systems are being replaced, identify acceptable HVAC system(s) characteristics (e.g. efficiency, special control features, flexibility, performance, reliability, maintainability, constructability, noise, etc.). When several systems appear equally suited to the project, identify those systems and instruct the design A/E to make the determination based upon a life cycle analysis. If so instructed by GSA, describe a baseline HVAC system to be used in all comparisons.
- ☐ Identify if special cleaning and/or chemical treatment features are required.
- ☐ Describe opportunities and analysis requirements for energy efficient design, considering heat recovery, energy management control systems, etc.
- ☐ Discuss utility company rebate opportunities (application procedures and potential savings).

8.3 Fire Protection

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Identify any changes in occupancy types/classifications in the building and the various hazard ratings associated with them.
- ☐ Identify the height and classification of building, and whether the building now requires new or supplemental sprinkler systems and/or interior standpipes. Coordinate sprinkler system/standpipe requirements with superstructure and interior construction design directives.
- ☐ Identify the size and location of water sources for fire flow and determine the available flow/residual pressure at the nearest hydrant.
- ☐ Discuss the need for a fire pump based upon the pressure requirements of the sprinkler system demand.
- ☐ Identify specialty areas that may require fire suppression systems other than wet pipe sprinklers (e.g. loading dock, food service exhaust hoods/plenums, etc.).
- ☐ Evaluate the condition and useful life of impacted fire protection systems, and identify rehabilitation requirements.
- ☐ Indicate if a fire protection engineer is required for the design. (If fire protection systems are expected to exceed \$200,000 in construction costs, an accredited fire protection engineer is required.)

9.0 ELECTRICAL

9.1 Service and Distribution

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Identify power characteristics to the site and associated rate structure. Identify any load shedding requirements by power company. Identify if there are cost sharing or rebate opportunities from local utilities to install load shedding equipment.
- ☐ Identify power service requirements for proposed changes, based on watts per square foot analysis.
- ☐ Identify special metering requirements (e.g. separate metering for commercial spaces, computer operation% HVAC plant equipment etc.).
- ☐ Identify the condition and adequacy of the existing power distribution system. Identify any major rehabilitation required to accommodate the proposed occupancy.

9.2 Lighting and Power

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Discuss feasibility and operating issues of utilizing emergency power services as a load shedding means. Address approximate size, fuel storage, and rating impacts.
- ☐ Identify any spaces and equipment which have special power requirements (e.g. computer rooms, kitchens, security spaces, etc.).
- ☐ Indicate if the services of a testing consultant is necessary to evaluate the current loading on existing panels and equipment. Identify what testing is to be done during design.

- ☐ Identify the various types of spaces addressed in the project and list the recommended lighting levels, power density (watt/sf) and type of control for those spaces.
- ☐ Describe the condition/adequacy of existing lighting system(s) and identify any major rehabilitation required to accommodate the proposed occupancy.
- ☐ Identify if occupancy sensor and/or BAS control is appropriate.
- ☐ Discuss furniture systems task lighting needs.
- ☐ Describe requirements for site or area lighting.

93 Special Electrical Systems

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.

Building Automation System (BAS)

- ☐ Identify building systems, equipment, and operations which could benefit from a BAS (e.g. WAC and energy management systems, lighting, elevators, firesafety, security, building maintenance, etc.). If the application appears appropriate, direct a BAS application and/or indicate design feature life cycle cost procedures to be applied during design.
- ☐ Identify existing BAS and/or automated control systems and describe feasibility of connecting impacted building system control functions.
- ☐ Discuss control strategies to be applied (e.g. demand control, optimized start-stop, ventilation economizer operations, etc.).
- ☐ Describe BAS architecture and represent with a bubble diagram of system components.

Security

- ☐ Describe desired “level(s)” of security service for involved spaces.
- ☐ Describe the security requirements of the project’s perimeter and interior features/spaces.
- ☐ Describe desired security devices (e.g. card readers, door contacts, motion detectors, break glass detectors, etc.) to accommodate specific security requirements.
- ☐ Evaluate the condition and adequacy of the existing security program, and identify any major changes required to accommodate proposed occupancies.
- ☐ Identify security systems control/alarm interface with elevators, door locks, telephone service, fire alarm, and area lighting, etc.
- ☐ Identify if there is a requirement for BAS interface. If so, describe special BAS functional requirements.
- ☐ Identify if package and/or personnel inspection is required. Determine if x-ray inspections are anticipated. If so, determine if equipment will be part of the project or provided by others after project completion.
- ☐ Describe special voice masking or ADP shielding/filtering requirements, if any.

Emergency Light and Power

- ☐ Identify requirement for emergency power, given the proposed occupancy and involved emergency equipment/lighting.
- ☐ Determine if an UPS system is required for ADP/telecommunications.

9.4 Telecommunications (include if part of PBS project costs)

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.

- ☐ Through the Tenant Agency or Information Resources Management Service (IRMS), identify existing types of communication services/equipment.
- ☐ [Through findings obtained from the GSA Telecommunications Technical Services Contract (TTSC)][Through the Tenant Agency and/or the Information Resources Management Service (IRMS)], identify the type of communication services/equipment to be provided and whether these are to be included in the project.
- ☐ Identify facility support requirements (e.g. space need, security, pathways (conduit), support, WAC performance, etc.).
 - Switch (PABX) Installation(s)
 - Wire/Communication Closets
 - Antenna, Satellite Dishes, and Other Outside Network Links
 - Local Area Networks
- ☐ Identify if teleconferencing is to be provided, and if so, discuss facility and system requirements.

9.5 Fire Detection/Alarm Systems

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support system selection/features.
- ☐ Describe the existing fire alarm system and its useful life.
- ☐ Describe requirements for tie-in of any new fire alarms to existing systems. Discuss the need for new smoke and heat detection systems, if any.
- ☐ Describe fire alarm system features. Relate to interface with BAS requirements, if any.

11.0 EQUIPMENT

- ☐ Identify if fixed equipment is to be a part of the project. This might include equipment for kitchens, laboratories, firing ranges, medical units, audio-visual systems, parking control, detention (prison/jail) facilities, postal operations, etc.
- ☐ Describe whether existing and/or new furniture will be involved. Describe quantity and identify types.
- ☐ Identify if vaults are required. Describe the type and size.
- ☐ Determine if material handling equipment will be provided (e.g. cranes, conveyors, pneumatic tubing, etc.).
- ☐ Identify anticipated functions or operations in the building that may benefit from the use of robotics (e.g. mail handling, security, floor cleaning, etc.). For each application, establish special facility requirements and associated costs.

12.0 SITE WORK

- ☐ Reference applicable sections within codes, standards, handbooks, and/or guidelines that govern design. Identify exceptions therein to suit project needs. Describe special design procedures required to support selected site features. Consider the following
 - Zoning
 - Accessibility For Individuals With Disabilities
 - Historic Reservation
 - Environmental Hazards
 - Demolition/Waste Removal
 - Water/Sewer Connections/Metering
 - Wetlands/Floodplain
 - Parking/transportation

12.1 Site Data *If alteration work involves new structures...*

- ☐ Obtain a legal description of the site including a plot plan and written description of the site to include property owner, metes and bounds, and other pertinent information. Easements and encumbrances should be identified.

- ☐ Identify relevant planning studies which influence site development, including but not limited to:
 - Master Plans
 - Development Plans for Adjacent properties and sensitive Land Uses
 - Transportation Plans for Area
 - Geotechnical Studies
- ☐ Discuss if the project might affect an archaeological site. If so, identify the rules and regulations that are applicable to the site and potential project impacts.
- ☐ Identify neighboring structures and their line of sight and antenna angle effects on the planned project
- ☐ Identify if special studies may be necessary (e.g. ground water testing or soil contamination study, etc.).
- ☐ From soil boring and test pit reports or from existing soil boring tests adjacent to the property, identify subsurface conditions which may impact the cost or feasibility of alteration work.
- ☐ Identify the location, type, condition, and quantity of all asbestos containing material that may impact the project. Identify appropriate abatement action to alleviate the health hazard and facilitate implementation of the project.
- ☐ For site demolition, identify the quantity and size of all fluid filled electrical transformers and capacitors containing PCBs. Identify what actions are necessary to be in conformance with current regulations (including EPA 40 CFR Part 761).
- ☐ Identify the size, age, type, condition (if possible) and location of all underground storage tanks on site that may be impacted by the project. Identify content and current utilization of the UST(s).
- ☐ Through field tests, identify the amount of contamination caused by the UST(s) and piping, if any. Identify what actions are required to be in conformance with current regulations (including EPA 40 CFR Parts 280 and 281). Coordinate actions with design directives for impacted building systems.

12.2 Site Improvements

Parking

- ☐ From agency interviews (and/or NEPA compliance documents), determine changes in the projected parking needs and the allocated official parking requirements for each agency. Develop a table that shows the number of spaces needed by type (personal, visitor, motor pool, special vehicle, delivery, taxi, and handicapped), and the square footage.
- ☐ From zoning/code documents, determine the amount of site parking space required (or prohibited).

Site Development/Landscaping

- ☐ Identify types of outdoor spaces required (e.g. circulation, parking, loading areas, landscaped areas, plazas, playgrounds for day care, courtyards, and equipment areas.
- ☐ Identify local zoning requirements that impact outdoor use space.
- ☐ Identify if changes in accessibility requirements of emergency fire and rescue operations.
- ☐ Discuss proposed changes in the context of material/vehicular site access (i.e. ability to get curb cuts, ramps, turning lanes, load limits, etc.).
- ☐ Describe if existing vegetation should be preserved and areas which will require new landscaping.
- ☐ Discuss the likelihood of extensive grading.
- ☐ Determine if site landscaping has historical significance.
- ☐ Identify security issues that may impact landscaping, relating to concerns of concealment or barriers.

123 Site Utilities*General*

- ☐ For all site utilities (storm sewer, sanitary sewer, water electricity, gas, oil, steam, hot/chilled water), identify applicable codes standards, and design criteria references.
- ☐ Analyze the availability, capacities, pressures, age, and method of distribution of each type of utility involved.
- ☐ Determine the impact of new loads to capacities available through existing services.

Water Supply and Distribution

- ☐ Obtain residual and static pressures and the fire flow of the water main to which changes will be made.
- ☐ Determine if a water pumping/pressure maintenance system is required.

Drainage and Sewerage Systems

- ☐ Describe the adequacy of sanitary sewer service. Identify any special local condition affecting storm water design.
- ☐ Estimate the quantity of effluent that is anticipated for a 24-hour period and the peak hour design quantity predicted.
- ☐ Describe local conditions and agency requirements (such as the use of chemicals) that would affect the sanitary sewer modifications.

IMPLEMENTATION STRATEGY

This section of the appendix provides sample instructions to support developing an implementation strategy and schedule for the project.

Space Management

- ☐ Identify whether swing space will be necessary and if it must be leased. Consider the impact that construction will have on tenants, the level of space utilization within the existing building, the availability of space in nearby government buildings, etc.
- ☐ Assess tenant build-out requirements for swing space, addressing interior finishes, partitioning, furniture, power, firesafety, telecommunications, etc. Describe procurement scheduling to accommodate swing space needs.

Off-Hour Services

- ☐ **Describe the work** which may require Off-Hour construction.
- ☐ Weigh the high labor costs of Off-Hour construction with the disruption of tenants and the costs of tenant relocation.

Government Approvals

- ☐ Discuss prospectus approval milestones involving GSA, the Office of Management and Budget, and Congress.
- ☐ After conferring with the Regional Planning Staff coordinate with identified local, state, and Federal authorities as to required approvals, procedures, and scheduling concerns.
- ☐ Identify requirements of local boards/authorities such as code authorities, zoning boards, health departments, fine arts commissions, county development boards, etc.
- ☐ Identify applicable regulations of State and Federal authorities such as State/Federal Environmental Agencies, State Historic Preservation Office, and/or The National Advisory Council on Historic Preservation.

Agency Mission Interruption

- ☐ Identify potential interruptions to both the Agency's internal operations and external contact with the public. Discuss ways to mitigate problems.
- ☐ Coordinate scheduling needs with tenant agencies and GSA's regional Planning Staff and Real Estate offices.

Utilities and Special Systems/Coordination

- ☐ Discuss procedural and schedule requirements for impacted utilities and special systems, including: moving, excessing, installation, replacement, testing, and performance certification.
- ☐ Identify telecommunications roles/responsibilities and scheduling impacts in providing required design and construction services, including: relocation of existing equipment new system instruments, new wiring/cabling, new switch and network installation, maintenance, facility support. etc.

Building Operation

- ☐ For the construction period discuss how building operations/maintenance will be achieved and any support requirements for services.
- ☐ Consider space needs for dust partitions, safety fences, physical security, increased cleaning by custodial staff.
- ☐ Through discussions with the Regional Real Property Management and Safety Division identify safety concerns such as scheduling environmental inspections and monitoring asbestos, radon and other health safety concerns.
- ☐ Discuss the need to train GSA operators, contractors and tenant agency personnel in the operation/use of the facility.

Environmental Impact

- ☐ Discuss actions which may be needed to mitigate environmental impact such as special traffic routes for construction vehicles, time of day restrictions, etc.
- ☐ Identify the process of obtaining reviews and/or approvals of environmental organizations having authority over the project. Coordinate all environmental concerns with the GSA Regional Planning Staff.
- ☐ Describe environmental requirements regarding lease termination or property excessing procedures.

Procurement Strategy

- ☐ Define the implementation strategies used to evaluate Traditional and Design-Build procurement options. Identify if multiple contract packages are required or desirable.
- ☐ Discuss pros and cons of Traditional and Design-Build procurement approaches with regard to schedule. Discuss the appropriateness of Design-Build relative to uncertainty in tenant requirements and time related cost impacts.

COST ESTIMATING

This section provides sample programming instructions which should be considered when developing PDS scope requirements for project cost estimating assessments.

General

- ☐ Complete GSA Form 3597 to represent Reject Data, Estimated Total Project Costs, Estimated Reimbursable Costs, and Estimated Tenant Relocation Costs. Follow directions contained thereon.
- ☐ For the 50 percent PDS submission, identify programming requirements and/or implementation strategy requirements which have significant impact on overall project costs. Coordinate with Design and Construction on ways to mitigate unacceptable costs. Represent final decisions/rationale for the purchase of high cost items in the 90 percent submission.
- ☐ Identify any critical implementation action which, if not successful, could have severe impact on project costs.

Project Data

- ☐ Transfer housing plan analysis data to represent the various space types in the building and identify the project's impact on them.
- ☐ Coordinate with GSA Repair and Alteration in developing Work Item statements which are to be referenced within the PDS and cost form. Work Item statements may be different from those identified within the BER.

Estimated Total Project Costs

- ☐ Provide Work Item summary cost data and use backup UNIFORMAT sheets to represent all work to be paid by GSA. Represent both Traditional and Design-Build delivery methods on the indicated cost summary sheets.

- ☐ Perform a procurement cost comparison between Traditional and Design-Build delivery methods based upon GSA approved procurement approaches and implementation strategies. Use a separate GSA Form 3597 for each delivery alternate. If the selected Design-Build procurement approach assumes that some work items will be delivered using Traditional methods, use the appropriate entries on the Reject Cost Summary and Work Item Summary sheets.
- ☐ Should special consultant services (testing or studies) be required to support design solutions, the programmer shall define work elements and man-hour/cost estimates. GSA will subsequently apply these cost allowances in completing GSA Form 3597.

Estimated Reimbursable Costs

- ☐ Coordinate with GSA Real Estate to identify costs to be assumed by others. These include “above standard” costs and/or other reimbursable services.
- ☐ Participate in coordination meetings between GSA and involved tenants to address reimbursable costs. Provide each impacted tenant with a cost estimate of their required payment and be prepared to discuss its basis.

Estimated Tenant Relocation Costs

- ☐ Coordinate with GSA Real Estate to establish “order of magnitude” estimates to accommodate space planning, swing space alterations, moving costs, telecommunications, special equipment relocations, leased space costs, operating cost impacts, and special equipment/service lease requirements. For all types of procurement evaluated, identify the year(s) these costs will be incurred and the funding source of each. Establish from GSA Real Estate a recognition of funding sources.
- ☐ Estimate approximate costs associated with build-out of tenant swing space.
- ☐ Estimate approximate telecommunication costs based upon programming direction from tenants and/or GSA IRMS sources. Confirm telecommunication cost allowances for facility support.

PDS EVALUATION APPENDIX

As addressed within this guide, a PDS is intended to be a macro analysis of the scope and implementation issues that affect project cost. The PDS must meet the objectives of both a planning (decision) document and a contract (design A/E) scope of work. The following sample forms are provided to aid in evaluating a PDS based upon this guideline.

Region: Project:		Project No. Date:		PDS No.		P a g e o f		
				Reviewer:				
Locations:								
Total Sq. Pt. = Total Cost = Occupancy = Site Size =		Project Description:						
In-House: _____ Contract:		Project Type: _____Alteration, _____New Construction						
Assessment Criteria		Response		Assessment*				* C = Complete/I = Incomplete/NI = Not Included/NA = Not Applicable
		Y	N	C	I	NI	NA	
PROGRAMMING								COMMENTS
1.1 Goals and Objectives								
Are they appropriate?								
Is functional objectives/systems matrix provided?								
1.2 Housing Plan								
Is it included?								
Was expansion space treated?								
Is it consistent with goals and objectives?								
1.3 Scope Statements								
Are they comprehensive?								
Do they agree with housing plan?								
Are goals/objectives reflected?								
Is the use of the Facilities Standards for PBS described?								
Are special design procedures/methods described?								
Am criteria/information references specific to applicable section/page numbers?								
1.4 Contract Worthy								
Are PDS design directives sufficient for A/E contract?								
1.5 Trade-Off Discussions								
Are alternate strategies and trade-offs discussed?								
Are cost analyses of critical trade-offs discussed?								

Region: Project :				Project No.		PDS No.		Page of	
				Date:		Reviewer:			
Locations:									
Assessment Criteria		Response		Assesment*				*C = Complete/I = Incomplete/NI = Not Included/NA = Not Applicable	
		Y	N	C	I	N	I		
IMPLEMENTATION								COMMENTS	
2.1 Construction Phasing									
Does it include realistic construction phasing?									
Is it coordinated with swing space needs?									
2.2 Tenant Impact/Space									
Does it define tenant impact in terms of work environment?									
temporary or permanent space changes?									
swing or leased space requirements?									
2.3 Telecommun. Responsibility									
Have tenant needs been discussed?									
Has strategy addressed: roles/responsibilities?									
funding sources?									
schedule?									
2.4 Critical Events									
Does it identify critical implementation events and dates?									
2.5 Timeline/Schedule									
Is a timeline/schedule included?									
Does it realistically reflect the: scope of work?									
restraints?									
phasing?									
swing space?									
lease requirements?									
2.6 Procurement Approach									
Does it seem realistic with regard to: scope?									
cost?									
schedule?									
Has design-build vs. traditional									

Region: Project: Locations:				Project No.		PDS No.		Page of		
				Date:		Reviewer:				
Assessment Criteria		Response		Assessment*				*C = Complete/I = Incomplete/NI = Not Included/NA = Not Applicable		
		Y	N	C	I	NI	NA			
ESTIMATING								COMMENTS		
3.1 Use of Forms 3596/3597										
Does it include completed forms 3596/3597?										
Is the Project Data Section compatible with the Gen. Bldg. Requirements?										
Are Estimated Total Project Coat Summary sheets completed?										
Are reimbursable costs addressed?										
Are Estimated Tenant Relocation CoStS addressed?										
3.2 Program Cost Detail										
Is cost detail consistent with Unifomat Level 3?										
Does it identify special requirements?										
Is the cost estimate complete?										
Is the cost reasonable?										
Do unit costs reflect implementation strategy?										
3.3 Mark-ups and Escalation										
Are mark-ups properly applied?										
Are escalation allowances realistic?										
Does escalation match schedule?										
3.4 Implementation Schedule										
Have estimates been included for: Design and review?										Work not to be done by Contractor.
Construction management and inspection?										Work not to be done by Contractor.
Site acquisition?										Work not to be done by Contractor.
Tenant relocation costs?										
Telecommunications?										
Space planning?										
Leased space?										
Swing space?										
Moves?										
Design-Build vs. Traditional procurement?										

ORDERING INFORMATION

Additional printed copies of this guideline are available through the National Technical Information Service. Note the following address and telephone number...

U.S. Department of Commerce
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5285 Port Royal Road
Springfield, Virginia 22161
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